

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



WO 02/071297 A1

(43) International Publication Date  
12 September 2002 (12.09.2002)

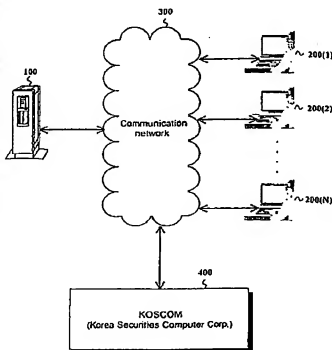
PCT

(10) International Publication Number  
WO 02/071297 A1

- (51) International Patent Classification: G06F 17/60
- (21) International Application Number: PCT/KR02/00406
- (22) International Filing Date: 8 March 2002 (08.03.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
2001/12117 8 March 2001 (08.03.2001) KR  
2001/53959 3 September 2001 (03.09.2001) KR  
2002/3317 21 January 2002 (21.01.2002) KR
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Toheran Bldg., Yoksamdong, Kangnam-ku, 135-080 Seoul  
(KR).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI,  
SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN,  
YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, EG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,  
GB, GR, IE, IT, LI, MC, NL, PT, SE, TR), OAPI patent  
(BF, BJ, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
NE, SN, TD, TO).

[Continued on next page]

(54) Title: CYBER TRADING SERVICE DEVICE AND METHOD FOR ANALYZING BUY QUANTITY



(57) Abstract: Disclosed is a cyber trading service method for providing a cyber trading service according to requests by a plurality of client PCs. When a user selects a buy order screen through a cyber trading system in the client PC, a cyber trading system transmits stock price information to the corresponding client PC. The cyber trading system receives a user's account number from the client PC, inputs an amount of previously deposited money to a previously established calculation program to calculate a buy price list, outputs calculation results to the corresponding client PC, receives the user's issue code and buy price from the client PC, inputs the corresponding issue's standard price and buy price to the previously established calculation program to calculate a quantity list, and outputs calculation results to the corresponding client PC. Therefore, the present invention reduces the transaction ordering steps according to selection by the user.

WO 02/071297 A1

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WO 02/071297 A1



Published:

— with international search report

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**Cyber Trading Service Device and Method for Analyzing Buy Quantity****BACKGROUND OF THE INVENTION****(a) Field of the Invention**

5           The present invention relates to a cyber trading device and method having a buy quantity analysis function. More specifically, the present invention relates to a cyber trading device and method having a buy quantity analysis function for enabling an investor to automatically receive buy price volume and buy quantity results without performing any calculation in the  
10       stage of buying stocks, and to easily input a buy order.

**(b) Description of the Related Art**

          In stock trading, on-line cyber trading has greatly increased as communication technologies and computation programs have developed. In Korea, over 80% of traders already do daily trading, and this kind of cyber  
15       trading is also expected to gradually increase in foreign countries.

          Cyber trading will continue to increase since it has many merits such as easy access through a use of a personal computer, provision of various categories of stock information, real-time reference of stock quotations, and quick buy and sell orders. Accordingly, frequencies of buying and selling the  
20       stocks have greatly increased, which is caused by synchronization of world-wide stock markets, increase of daily trading, and convenience of buy and sell orders using a computer.

          Stock buying and selling has a sequential cycle of: stock price analysis → buy order → stock price analysis → profit and loss analysis →

sell order. The buy stage in more detail has: analysis of stock prices (rise and fall rates of stock prices, and ups and downs widths of stock prices) --> determination of buy price volume --> determination of buy prices --> calculation of buy volume --> inputting of buy order --> buy conclusion.

5           When a number of stocks to buy and sell increases, an investor needs to repeat the above-noted buy stages frequently, and accordingly, calculation amounts and input tasks of buy orders increase.

          However, in spite of changes of stock trading environments that require much increased frequencies of buying and selling and many order  
10   inputting tasks, conventional cyber trading systems lack information that is provided to the investors in the buy stage, and hence, the investors daily and personally execute various kinds of computations, and have trouble in inputting the orders since the ordering process is performed manually. As a result, the investors spend much more time than required, exhaust mental  
15   energies, incorrectly calculate stock prices and corresponding quantities, and manually issue buy and sell orders. Also, because of the same reasons, the conventional systems fail to guarantee quick cyber trading.

          Conventional problems in each stage of stock buy are as follows:

          1) Stock price analysis stage: Price information lists are not provided  
20   to the investors. Conventional cyber trading does not provide price lists at the time of simultaneous bids and offers, and displays 10 quotations within a disclosure range when the market is open. Also, the conventional cyber trading does not provide advance-decline ratios (ADR) and advance-decline depth at the time of simultaneous bids and offers, and it only provides a

single ADR and an advance-decline depth with respect to the current price when the market is open. Therefore, the investor needs to calculate the stock prices such as the ADR and advance-decline depth by himself, and since he can only calculate a single stock price at one time, he cannot wholly  
5 determine the stock prices.

2) Buy price determination stage: The investor synthetically checks to what ADR and advance-decline depth the buy price selected corresponds, and determines an adequate buy price. However, since the investor cannot know the entire stock price lists, the ADR, and the advance-decline depth, he  
10 fails to synthetically determine the stock prices.

3) Buy money and buy quantity calculation stage: The conventional cyber trading does not provide a calculation service of how much or what percent of entrusted money in a stock account the investor will use to buy desired stocks, or a systematic calculation service for calculating the buy  
15 quantity according to the buy money and buy price. Therefore, in the case of a diversified investment to multiple issues, the investor needs to split previously deposited money, calculate the quantity by dividing the buy money by buy price, and recalculate the above-noted calculations when the buy money or buy price is changed.

20 4) Buy order stage: The inputting process of buy price and buy quantity in the conventional buy order is manually executed by the investor using a mouse and a keyboard, which causes inaccuracy and burden. This stage is also problematic in that the investor may mistakenly input the buy price and buy quantity as incorrect numbers, it may need dozens of

manipulations of the mouse and the keyboard, and it may require an inputting time of greater than 10 seconds. The investor may need to check whether the inputting process is correct, and they may not achieve correct buy information generated by the input values, so the economic and mental loss and cost of inputting the orders hundreds of times each day may consequently increase. Further, since the investor uses the identical inputting process for buy-order correcting orders and buy-order canceling orders, the same problems can be generated.

5) Profit and loss analysis stage: After inputting the buy price and buy quantity, the investor cannot previously estimate before buying the stocks how much he will gain or lose with respect to respective stock values when the actual transaction is performed. The investor can only know the profit and loss results after buying the stocks, and cannot simulate the profit and loss using the buy price and quantity before buying the stocks. Therefore, since the conventional method does not have the concept of before-buy profit and loss for each stock, the investor cannot determine the after-buy profit and loss for respective stocks in advance.

As a result, the investor suffers inconvenience and inaccuracy in the above-described respective stages, many times.

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#### SUMMARY OF THE INVENTION

It is an object of the present invention to provide a cyber trading service device and method having a buy quantity analysis function for

performing stages of 1) stock price analysis, 2) buy price analysis, 3) buy quantity analysis, 4) buy ordering, and 5) profit and loss analysis, according to an investor's selection, through one or two clicks of a mouse in one to three seconds.

5           In one aspect of the present invention, a cyber trading service device for providing cyber trading services according to requests by a plurality of client PCs (personal computers), comprises: a main controller for calculating a buy price list when a buy price calculation request is received from a corresponding client PC, and calculating a quantity list and outputting  
10           calculation results data when a calculation request signal on the quantity list is received; and a quantity list calculator for dividing a previously deposited money amount by percent (%) to calculate the buy price list when the amount of previously deposited money is received through the main controller, and calculating the quantity list that is buy information for  
15           respective stock prices from the corresponding issue's standard price and buy price and outputting corresponding calculation results to the corresponding client PC when the user's issue code and buy price are input.

          In another aspect of the present invention, a cyber trading service device for receiving stock information from a securities corporation's server  
20           and providing the cyber trading service comprises: a quantity calculation program storage unit for calculating a quantity list using a corresponding issue's standard price and buy price; a CPU for controlling to load a corresponding program in the quantity calculation program storage unit to an

inner main memory, execute it, and output calculation results of the quantity list; and a display for displaying the calculation results output by the CPU, to a user.

In still another aspect of the present invention, a cyber trading service method for providing the cyber trading service according to requests by a plurality of client PCs, comprises: transmitting stock price information to a corresponding client PC when a user selects a predetermined issue on a buy order screen through a cyber trading system in the client PC; receiving the user's account number from the client PC, inputting the amount of previously deposited money to a previously established calculation program to calculate a buy price list, and outputting calculation results to the corresponding client PC; and receiving the user's issue code and buy price from the client PC, and inputting the corresponding issue's standard price and buy price to the previously established calculation program to calculate a quantity list, and outputting calculation results to the corresponding client PC.

In further another aspect of the present invention, a cyber trading service method for receiving stock information from a securities corporation's server and providing the cyber trading service, comprises: (a) a CPU displaying stock price information on a buy order screen when a user logs in to a cyber trading system in a client PC; (b) the CPU receiving previously deposited money information from the securities corporation's server when the user selects a buy price calculation on the buy order screen, using a corresponding calculation program to calculate a buy price list, and



displaying the buy price list in a buy price list window; (c) the CPU using a corresponding calculation program to calculate the buy quantity corresponding to a stock price list and a stock price, and displaying it in a quantity list window when the user selects a predetermined price in the buy price list window; (d) the CPU setting a selected stock price to be a buy price, the corresponding quantity to be a buy quantity, and automatically and concurrently inputting them in a buy order blank when the user selects a predetermined stock price in the quantity list window; and (e) the CPU using a corresponding calculation program to calculate the profit and loss analysis for each stock price and displaying the same in the quantity list window when the user selects a predetermined stock price in the quantity list window.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate an embodiment of the invention, and, together with the description, serve to explain the principles of the invention:

FIG. 1 shows a configuration block diagram of a cyber trading service device according to a first preferred embodiment of the present invention;

FIG. 2 shows a configuration of a quantity analysis system of a cyber trading system according to the first preferred embodiment of the present invention;

FIG. 3 shows a detailed configuration of a quantity calculation program database of the quantity analysis system according to the first preferred embodiment of the present invention;

FIG. 4 shows a configuration of a cyber trading system in a client PC (personal computer) of the cyber trading service device according to a preferred embodiment of the present invention;

FIG. 5 shows a buy order screen of the cyber trading system in the client PC according to the first preferred embodiment of the present invention;

FIGS. 6(a) to 8(c) show an operation flowchart of a cyber trading service method according to the preferred embodiment of the present invention;

FIG. 9 shows a configuration block diagram of a cyber trading service device according to a second preferred embodiment of the present invention;

FIG. 10 shows a cyber trading system in the client PC according to the second preferred embodiment of the present invention;

FIG. 11 shows a detailed block diagram of a quantity calculation program storage unit of FIG. 10;

FIGS. 12(a) to 15 show an operation flowchart of the cyber trading service device according to the second preferred embodiment of the present invention;

FIG. 16 shows an exemplified buy price list calculated by the cyber trading system;

FIGs. 17(a) to 17(k) show an exemplified quantity list calculated by the cyber trading system;

FIG. 18 shows an exemplified buy order screen according to the preferred embodiment of the present invention, showing a buy price list, a quantity list, and a buy order input window; and

FIG. 19 shows a comparison between a conventional buy order method and an improved buy order method according to the preferred embodiment of the present invention.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the following detailed description, only the preferred embodiment of the invention has been shown and described, simply by way of illustration of the best mode contemplated by the inventor(s) of carrying out the invention. As will be realized, the invention is capable of modification in various obvious respects, all without departing from the invention. Accordingly, the drawings and description are to be regarded as illustrative in nature, and not restrictive.

FIG. 1 shows a configuration block diagram of a cyber trading service device according to a first preferred embodiment of the present invention.

As shown, the cyber trading service device comprises: a plurality of client PCs 200(1) to 200(N); a communication network 300; and a quantity analysis system 100.

A securities corporation installs an exclusive-use emulator or a web browser for cyber trading in the client PCs 200(1) to 200(N) through the communication network 300 or a compact disk (CD). When the exclusive-use emulator or the web browser is executed, the client PCs 200(1) to 200(N) are  
5 connected to the quantity analysis system 100, and when each user selects a quantity calculation button on a buy order screen, an issue code and a buy price are output to the quantity analysis system 100 through the communication network 300. The client PCs receive a quantity list from the quantity analysis system 100, and it is displayed on a buy order screen on  
10 the client PC 200.

The communication network 300 connects communication cables between the client PCs 200(1) to 200(N) and the quantity analysis system 100 of each securities corporation so as to transmit and receive data of a quantity list. When an issue code and a buy price are input through the buy  
15 order screen of each client PC according to each user's quantity calculation selection, the quantity analysis system 100 inputs a basic value and the buy price to a previously established calculation program to calculate the quantity list, and outputs the calculation results to the corresponding client PC.

FIG. 2 shows a configuration of the quantity analysis system 100 of  
20 the cyber trading system according to the first preferred embodiment of the present invention.

Referring to FIG. 2, the quantity analysis system 100 comprises: a main controller 110; a communication controller 120; a client information database 130; an account information database 140; a stock price

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information database 150; a management program input unit 160; a quantity calculation program database 170; and a quantity list calculator 180.

The communication controller 120 performs wire and wireless communication related to quantity lists between the client PC 200(1) to 200(N) and the quantity analysis system 100. When an account number, an issue code, and a buying price according to each user's selection of quantity calculation are input, the communication controller 120 receives data and transmits the data to the main controller 110, and outputs a quantity list to the corresponding clients PC(200(1), ..., 200(N)) through the communication network 300 according to control by the main controller 110. The main controller 110 determines whether the account number, the issue code, and the buying price according to each client PC user's selection of quantity calculation are input on the basis of a management program input through the management program input unit 160.

Also, the main controller 110 uses corresponding programs of the quantity calculation program database 170, the account information database 140, and the corresponding data of the stock price information database 150, each input through the management program input unit 160, to drive the quantity list calculator 180 to calculate the quantity list and control to output calculation data. The client information database 130 provides the main controller 110 with data needed for determining registered user states at the time of logging in. The account information database 140 for storing information on the user's previously deposited money provides an

available buying price to the quantity list calculator 180. The stock price information database 150 transmits the standard price of the corresponding item to the quantity list calculator 180.

5       The management program input unit 160 inputs various management programs and a quantity list calculation program related to the cyber stock trading used at the main controller 110 by a manager of the quantity analysis system 100. A calculation program of the quantity calculation program database 170 is transmitted to the quantity list calculator 180 according to instructions by the main controller 110. Various calculation  
10       programs of the quantity calculation program database 170 have built-in commission rates and break-even point rates, and a process for receiving other parameters (e.g., a standard price and a buying price) and calculating them will be described below. The quantity list calculator 180 uses calculation programs and input parameters to perform calculation according  
15       to control by the main controller 110. In the calculations, the corresponding calculation program of the quantity calculation program database 170 input by the management program input unit 160, the buying price, and the standard price of the corresponding item input by the stock price information database 150 are used to calculate the quantity list, and the calculation  
20       results are transmitted to the main controller 110.

FIG. 3 shows a block diagram of the quantity calculation program database 170 of the quantity analysis system 100 according to the first preferred embodiment of the present invention. The quantity calculation program database 170 of the quantity analysis system 100 comprises a buy

price calculation program 170a and a quantity calculation program 170b, and additional units may be added, removed, or modified if needed.

Operations of the respective calculation programs of the quantity calculation program database 170 are as follows. The buy price calculation  
5 program 170a of the quantity calculation program database 170 calculates a volume list of the buy price using the amount of previously deposited money (buying money) of account information, outputs a percent list having a range from 1 to 100%, and multiplies the buying money by the percent to output a  
buy money list for the respective percents (In the case the buying money is  
10 7,500,000 Won, the buy price becomes 7,500,000, 7,425,000, 7,350,000, ..., 150,000, 75,000 Won).

The quantity calculation program 170b calculates a buyable quantity for each stock price, and other information (commission, commission rates, break-even points, and break-even differences) according to a stock price list  
15 (including ADR and advance-decline depth) to which nominal prices from the highest limit to the lowest limit of corresponding issues are applied, by using the input items including the standard prices of the corresponding issues and the buy prices. The calculation process includes 1) calculating the highest limit price and the lowest limit price with reference to the standard price of  
20 the corresponding issue, and applying the nominal prices from the highest to lowest limit prices to produce a stock price list, 2) dividing the respective stock prices of the stock price list by the standard price to produce the ADR, 3) subtracting the standard price from the respective stock prices of the stock price list to produce the advance-decline depth, 4) dividing the buy prices by

the respective stock prices to calculate the buyable quantity, 5) multiplying the stock price by the buy quantity to produce the actual buy price, 6) multiplying the actual buy price by the commission rate, and adding a default commission to the multiplied results to produce the commission, 7) dividing the commission by the actual buy price to produce the commission rate, 8) multiplying the stock price by the break even point rate to produce the break even point, and 9) subtracting the stock price from the break even point to produce the break-even difference. In the case of nations where stock prices have no highest and lowest limit prices, the stock price list is produced with reference to values (e.g.,  $\pm 20.0\%$ ,  $-10.0 \sim +30.0\%$ ) set by the user.

FIG. 4 shows a cyber trading system 200 in a client PC in a cyber trading service device according to the preferred embodiment of the present invention.

Referring to FIG. 4, the cyber trading system 200 in the client PC comprises a central processing unit (CPU) 210; a communicator 220; a cyber trading program storage unit 230; and a buy order screen 240.

The communicator 220 performs wire and wireless communication, related to production of a quantity list, between the client PCs 200(1) to 200(N) and the quantity analysis system 100. The communicator 220 outputs an account number, an issue code, and a buy price resulting from each user's selecting the quantity calculation button of the quantity analysis system 100, and receives the quantity list from the quantity analysis system 100.

The CPU 210 controls to output the account number, the issue code,



and the buy price according to the user's selection of the quantity calculation button. Also, the CPU 210 displays the quantity list data input by the quantity analysis system 100 through the communicator 220, in a quantity list window.

5 The cyber trading program storage unit 230 stores a cyber-trading-only emulator program, automatically downloaded from the quantity analysis system 100 after log-in.

The buy order screen 240 displays a quantity list according to control by the CPU 210, and outputs the buy quantity and buy unit-cost data input by the user for buying desired stocks to the quantity analysis system 100.

10 FIG. 5 shows an exemplified buy order screen 240 of the cyber trading system 200 in the client PC according to the first preferred embodiment of the present invention.

The buy order screen 240 of the cyber trading system 200 comprises: a buy price calculation button 240a; a buy price list window 240b;  
15 a buy price input blank 240c; a quantity calculation button 240d; a quantity list window 240e; a buy quantity input blank 240f; a buy unit-cost input blank 240g; and a nominal price information window 240h.

In this instance, the buy price calculation button 240a of the buy order screen 240 enables division of the amount of previously deposited  
20 money of the user's stock account into 100 1% units to calculate the same. The buy price list window 240b displays the list of the amount of previously deposited money divided into 100 1% units. The buy price input blank 240c receives corresponding values when the user directly inputs the buy price

through a keyboard or selects a predetermined value of the buy price list window 240b. The quantity calculation button 240d is an instruction button for calculating the buyable quantity for each stock with reference to the price of the buy price input blank 240c. The quantity list window 240e displays the  
5 quantity list for each stock calculated according to the instruction by the quantity calculation button 240d. When the user selects a predetermined row in the quantity list window 240e, the buy quantity input blank 240f and the buy unit-cost input blank 240g automatically and concurrently receive the row's stock price and quantity. The nominal price information window 240h  
10 displays stock price information including the corresponding issue's standard price, nominal price, and buy and sell quantity for each nominal price.

With reference to the drawings, an operation of the cyber trading service device and method according to the first preferred embodiment of the present invention will now be described in detail.

15 FIGs. 6(a) to 8(c) show flowcharts for the cyber trading service method according to the preferred embodiment of the present invention.

As shown, when the user executes a cyber-trading-only emulator or a web browser in the client PC 200(1), the client PC 200(1) accesses the quantity analysis system 100 of each securities corporation through the  
20 communication network 300 in step S1.

After accessing the quantity analysis system 100, the client PC 200(1) displays a log-in screen output by the quantity analysis system 100 in step S2.

The client PC 200(1) outputs the ID and the password input by the user to the quantity analysis system 100, and the main controller 110 of the quantity analysis system 100 determines whether the ID and the password are matched with the data registered to the client information database 130.

5 When the user is found to be a registered user after said determination, the main controller 110 outputs a main screen in step S3.

After this, when the user selects the buy order screen 240 and inputs (or selects) an issue number of a desired stock (including stocks, futures, and options) to the client PC 200(1), the CPU 210 periodically receives

10 information on the prices (including standard prices, nominal prices, sell/buy prices, etc.) of the issues from the quantity analysis system 100, and displays it on the nominal price information window 240h in step S4.

The above steps S1 to S4 correspond to a conventional cyber trading method.

15 Under this status, the CPU 210 determines whether the user directly inputs the buy price to the buy price input blank 240c through the keyboard or selects the buy price calculation button 240a in step S5. When it is found that the user directly inputs the buy price to the buy price input blank 240c, the CPU 210 receives the input buy price in step S6.

20 Referring to FIGs. 7(a) and 7(b), when the user selects the buy price calculation button 240a so as to know the list of the amount of previously deposited money and the buy price of divided amount of previously deposited money in step S7, the CPU 210 outputs a buy price calculating key signal and the user's account number data to the quantity analysis

system 100 in step S8a.

The main controller 110 of the quantity analysis system 100 determines whether the buy price calculating key signal and the user's account number data are input from the client PC 200(1) through the communication controller 120 in step S8b.

When the key signal is found to be input at the time of calculating the buy price after the determination, the main controller 110 transmits the buy price calculation program 170a of the quantity calculation program database 170 to the quantity list calculator 180 in step S8c, transmits the amount of previously deposited money of the account information database 140 to the quantity list calculator 180 in step S8d, and instructs the quantity list calculator 180 to execute a corresponding calculation in step S8e.

Next, the quantity list calculator 180 inputs the amount of previously deposited money to the buy price calculation program 170a according to the calculation instruction from the main controller 110 in step S8f, and divides the amount of previously deposited money into units of from 100 to 1% in 1% graduations in step S8g. (That is, the amount of the previously deposited money is multiplied by 100%, 99%, 98%, ..., 3%, 2%, 1% to produce the volume of the buy price per percent.) The division units may be variously applied according to the values (e.g., 1% graduations, 2% graduations, ranges of between 20 and 50%, or between 30 and 100%) set by the user, or the amount of the previously deposited money may be redefined per 1,000/10,000 Won.

The quantity list calculator 180 transmits a calculation completion signal and calculated buy price list data to the main controller 110 in step S8h.

When receiving the calculation completion signal and the buy price  
5 list from the quantity list calculator 180 in step S8i, the main controller 110 outputs the buy price list data to the client PC 200(1) through the communication controller 120 in step S8j.

When the buy price list data are input to the client PC 200(1) from the quantity analysis system 100 in step S8k, the CPU 210 of the client PC  
10 displays the input buy price list data to the buy price list window 240b of the buy order screen 240 in step S8l.

Next, when the user synthetically handles the percentages and the buy prices per percent of the buy price list window 240b to determine the buy price, (or to complete making a volume decision), and selects a  
15 predetermined line (a row, percent, and buy price) of the buy price list window so as to input the determined buy price in step S9, the CPU 210 inputs the selected buy price to the buy price input blank 240c, and highlights the corresponding line in step S10.

Here, the user can modify the buy price of the buy price input blank  
20 240c to other values using a spin button or a keyboard.

Next, referring to FIGs. 8(a) to 8(c), when the user selects the quantity calculation button 240d of the buy order screen 240 in step S11, the CPU 210 outputs a quantity calculating key signal, an issue code, and buy price data of the buy price input blank 240c to the quantity analysis system

100 in step S12a.

The main controller 110 of the quantity analysis system 100 determines whether a quantity calculating key signal, an issue code, and buy price data are input from the client PC 200(1) through the communication  
5 controller 110 in step S12b.

When the quantity calculating key signal is input after the determination, the main controller 110 transmits the quantity calculation program 170b of the quantity calculation program database 170 to the quantity list calculator 180 in step S12c, transmits the standard price of the  
10 corresponding issue of the quantity calculation program 170b to the quantity list calculator 180 in step S12d, transmits the buy price input from the client PC to the quantity list calculator 180 in step S12e, and instructs the quantity list calculator 180 to execute the corresponding calculation in step S12f.

Next, the quantity list calculator 180 inputs the standard price and  
15 the buy price to the quantity calculation program 170b according to the calculation instruction from the main controller 110 in step S12g, calculates the highest and lowest limit values using the corresponding issue's standard price in step S12h, and calculates a stock price list by applying the nominal prices from the highest limit value to the lowest limit value in step S12i. Next,  
20 the quantity list calculator 180 divides the respective stock prices of the stock price list produced in the previous step S12i by the standard price to calculate the ADR list for the respective stock prices in step S12j, subtracts the standard price from the respective stock prices of the stock price list to calculate a per-stock advance-decline depth list in step S12k, and divides the

buy price input from the client PC by the respective stock prices of the stock price list to calculate the buyable quantity for each stock price in step S12l.

Next, the quantity list calculator 180 multiplies the buyable quantity by the stock price of the stock price list to calculate the actual buy price for each stock price in step S12m, multiplies the actual buy price by the commission rate according to the volume of transaction money, adds the default commission to the multiplied value to calculate the commission for each stock price in step S12n, divides the commission by the actual buy price to calculate the commission rate in step S12o, multiplies the stock price by the break-even point rate to calculate the break-even point for each stock price in step S12p, and subtracts the stock price from the break-even point to produce the break-even difference for each stock price in step S12q, and thence the calculation is completed.

When the calculation is completed, the quantity list calculator 180 transmits a calculation completion signal and quantity list data (including the stock prices, ADRs, advance-decline depths, actual buy prices, commission (rates), and break-even point (break-even difference) lists) to the main controller 110 in step S12r.

When receiving the calculation completion signal and the quantity list data from the quantity list calculator 180 in step S12s, the main controller 110 outputs the quantity list data to the client PC 200(1) through the communication controller 120 in step S12t.

When the quantity list data are input to the client PC 200(1) from the quantity analysis system 100 in step S12u, the CPU 210 of the client PC

200(1) displays the input quantity list data to the quantity list window 240e of the buy order screen 240 in step S12v.

Next, a process for the user to synthetically analyze the stock prices, ADRs, and advance-decline depths; select a desired buy price; and input a buy order while the stock price and the buy quantity are displayed in the quantity list window 240e will be described.

The CPU 210 determines whether the user selects (or clicks twice) a predetermined row of the quantity list window 240e so as to input a buy order in step S13.

When the user is found to select the predetermined row of the quantity list window 240e after the determination, the CPU 210 automatically inputs the stock price of the row selected by the user in the input blank 240g, and automatically inputs the quantity of the row selected by the user in the buy quantity input blank 240f at the same time in step S15. Accordingly, by the user's selecting the predetermined row using a mouse, the buy unit-cost and the buy quantity needed for the buy order are concurrently and automatically input.

The CPU 210 highlights the selected row in the quantity list window 240e and the corresponding stock price in the nominal price information window 240h in step S16 (so that the user may easily and visually find the buy price and the position where the quantity is displayed.)

Next, when the user selects a buy order transfer button according to the user's final confirmation and determination, the CPU 210 outputs an



account number, a transaction password, an issue code, a buy unit cost in the buy unit cost input blank 240g, and buy quantity data in the buy quantity input blank 240f to the quantity analysis system 100 in step S17. Accordingly, the quantity analysis system 100 transmits them to the KOSCOM 400 and  
5 outputs transaction conclusion results to the client PC.

A case when the user cancels or amends the input order will now be described. After the buy order is input, when the user selects an order cancel instruction of the right button of the mouse positioned on the row corresponding to the highlighted buy price in the quantity list window 240e or  
10 the nominal price information window 240h in step S18, the CPU 210 cancels the buy order matched with the corresponding price in step S19.

Also, when the user drags the row matched with the highlighted buy price in the quantity list window 240e or the nominal price information window 240h to a different price or selects a new price in step S20, the CPU  
15 210 automatically inputs the selected price in the buy unit-cost input blank 240g, and when the user selects an order correction instruction, it sets the newly selected price as a correction price, and performs a buy correction order in step S21.

Accordingly, the user can correctly, quickly, and easily provide a buy  
20 order while viewing the buy unit cost and buy quantity information, thereby having a more advantageous investment environment.

A second preferred embodiment for enabling the client PC's cyber trading system to calculate the quantity list by marginally modifying the first preferred embodiment for calculating the quantity list by a securities

corporation's quantity analysis system 100 will now be described.

In the second preferred embodiment, the client's PC's cyber trading system and not the securities corporations' quantity analysis system 100 calculates all of the quantity lists.

5           FIG. 9 shows a configuration of the quantity analysis system 100 according to the second preferred embodiment of the present invention. FIG. 9 corresponds to a system for providing information on the accounts and stock prices generally used by the securities corporations.

          Referring to FIG. 9, the quantity analysis system 100 comprises a  
10   main controller 110; a communication controller 120; a client information database 130; an account information database 140; and a stock price information database 150.

          The communication controller 120 of the quantity analysis system  
15   100 performs wire and wireless communication related to the information on the clients, dealing with accounts and stock prices, between the client PCs 200(1) to 200(N) and the quantity analysis system 100. The communication controller 120 outputs the user's account information (the previously deposited money amount) and stock price information (the standard price) data to the corresponding client PCs 200(1) to 200(N) through the  
20   communication network 300. The main controller 110 controls information on the account of the stock price to output to the corresponding client PC. The client database 130 provides data needed for determining registered user states at the time of logging in. The account information database 140

provides the user's previously deposited money data. The stock price information database 150 stores stock price information including the corresponding issues' standard prices, current prices, nominal prices, buy and sell quantities for each nominal price, transaction volumes, highest and lowest limit values respectively input from the KOSCOM 400, and provides it to the client PC.

FIG. 10 shows a configuration of a cyber trading system 200 in the client PC according to the second preferred embodiment of the present invention.

10 The cyber trading system 200 in the client PC comprises a CPU 210; a communicator 220; a quantity calculation program storage unit 230; and a buy order screen 240.

The communicator 220 performs wire and wireless communication related to information on the accounts and stock prices between the client PC and the quantity analysis system 100. The communicator 220 receives previously deposited money data according to the user's referring to the amount of previously deposited money, and a corresponding issue's stock price information, and transmits them to the CPU 210. The CPU 210 1) controls to request and receive account information from the quantity analysis system 100, 2) displays stock price information, 3) calculates the buy price and the quantity list according to the user's request of calculating the buy price and the quantity list, 4) displays the buy price and quantity list data, and 5) executes a buy order. The quantity calculation program storage

unit 230 stores various programs for calculating the buy price, the quantity list and the profit and loss analysis automatically downloaded from the quantity analysis system 100 after log-in. The programs are not varied as long as the nominal price units, the depth of the highest and lowest limits, and the commission rates are not changed. Hence, once they are downloaded in the initial step, they do not need to be downloaded each accessing time. The buy order screen 240 displays the corresponding issue's stock price information, the buy price list and the quantity list information according to control by the CPU 210, and outputs the buy quantity and buy unit cost data input by the user to buy desired stocks, to the quantity analysis system 100.

FIG. 11 shows a configuration of the quantity calculation program storage unit 230 according to the second preferred embodiment of the present invention. The programs in the quantity calculation program storage unit 230 comprise: a buy price calculation program 230a; a quantity calculation program 230b; and a profit and loss analysis program 230c. The operation of the buy price calculation program 230a and the quantity calculation program 230b is identical with that of the buy price calculation program 170a and the quantity calculation program 170b, and therefore no operation of the corresponding programs will be described.

The profit and loss analysis program 230c analyzes various kinds of profit and loss, assuming that the quantity of the buy quantity input blank 240f is set to be a quantity, the stock price of the buy unit cost input blank 240g is set to be a buy price, and the stock price of the stock price list is set

to be a sell price. The process of analyzing the profit and loss includes 1) dividing the stock price of the stock price list by the buy price to calculate an earning rate for each stock price, 2) subtracting the buy unit price from the stock price to calculate a profit and loss degree, and 3) multiplying the profit and loss degree by the quantity to calculate a total profit and loss. Further, the profit and loss analysis program 230c may include calculations of: the commission for each stock price (i.e., (buy price + sell price) x commission rate); the commission rate (i.e., commission / (buy price + sell price)); the net profit or loss (i.e., total profit or loss - commission); the net profit or loss rate for each stock price (i.e., (total profit or loss - commission) / total buy price); the total sell price (i.e., stock price x quantity); and the total sell rate (i.e., total sell price / total buy price). The profit and loss analysis method can calculate the profit and loss for each stock price after the user selects the buy unit cost and the buy quantity.

15 A process for the cyber trading service device to calculate a buy price list, a quantity list, and a profit and loss analysis according to the second preferred embodiment of the present invention will now be described.

Referring to FIG. 12(a), a client PC 200(1) accesses each securities corporation's quantity analysis system 100 through the communication network 300 in step T1. The client PC displays a log-in screen and outputs an ID and a password to the quantity analysis system 100 in step T2. In the case the user is a registered one, the quantity analysis system 100 outputs the most recent cyber trading program and the CPU 210 stores the

downloaded quantity calculation program in the quantity calculation program storage unit 230 in step T3.

When the user selects the buy order screen 240 on the client PC 200(1), the CPU 210 displays the buy order screen 240, and when the user  
5 inputs (or selects) an issue code, the CPU 210 periodically receives stock price information from the stock price information database 150 of the quantity analysis system 100 and displays it in the nominal price information window 240h in step T4. The steps of T1 to T4 are well known to skilled persons and accordingly no further corresponding description will be  
10 provided.

Next, a process for calculating the buy price list and the quantity list through the cyber trading system of the client PC 200(1) will be described.

Referring to FIG. 12(b), under this state, the CPU 210 determines whether the user directly inputs the buy price in the buy price input blank  
15 240c through a keyboard or selects the buy price calculation button 240a in step T5. When it is found from the determination that the user directly inputs the buy price in the buy price input blank 240c, the CPU 210 receives the input price in step T6.

Referring to FIG. 13, when it is found that the user selects the buy  
20 price calculation button 240a in step T7, the CPU 210 outputs user account number data to the quantity analysis system 100 in step T8a. When a request for account information (or amount of previously deposited money) is input, the quantity analysis system 100 outputs the user's previously deposited money data of the account information database 140 to the client

PC 200(1) in step T8c. The options of directly inputting the buy price through a keyboard or selecting the buy price calculation button are provided for improving the user's convenience.

Next, when account reference (or previously deposited money) data  
5 are input to the client PC 200(1) from the quantity analysis system 100 in step T8d, the CPU 210 calls the buy price calculation program 240a from the quantity calculation program storage unit 230, and inputs the amount of previously deposited money to the buy price calculation program 240a to calculate a buy price list in step T8e. Since this calculation is matched with  
10 that executed by the quantity list calculator 180 of the quantity analysis system 100, no further detailed description will be described.

When the calculation is finished, the CPU 210 displays the calculated data in the buy price list window 240b in step T8f.

Next, when the user selects a predetermined line (row, percent, buy  
15 price) on the buy price list 240b so as to know the buyable quantity for each stock price according to the buy price in step T9, the CPU 210 inputs the selected buy price in the buy price input blank 240c and highlights the corresponding line on the buy price list in step T10.

After this, referring to FIG. 14, when the user selects the quantity  
20 calculation button 240d of the buy order screen 240 in step T11, the CPU 210 calls the quantity calculation program 240b from the quantity calculation program storage unit 240 in step T12a, and the corresponding issue's standard price from the nominal price information window 240h in step T12b.

The CPU 210 then calculates the quantity list (stock prices, ADRs, advance-decline depths, commissions, commission rates, break-even points, and break-even differences). Since this calculation is matched with that executed by the quantity list calculator 180 of the quantity analysis system 100 according to the first preferred embodiment of the present invention, no further detailed description will be provided.

When the calculation is finished, the CPU 210 displays the calculated data in the quantity list window 240d in step T12e.

Next, a process for inputting a buy order and analyzing the profit and loss will be described.

Referring to FIG. 12c, the CPU 210 determines whether the user synthetically checks the stock price, ADR, advance-decline depth and quantity, decides a desired buy price, and selects (or clicks twice using a mouse) a predetermined row of the quantity list window 240e to input a buy order in step T13.

When the user selects the predetermined row of the quantity list window 240e after the determination, the CPU automatically inputs the stock price on the row selected by the user in the buy unit cost input blank 240g, and at the same time, it automatically inputs the quantity on the row selected by the user in the buy quantity input blank 240f in step T15, and the CPU 210 highlights the row selected by the user in step T16.

Also, the CPU 210 executes the profit and loss analysis assuming that the quantity of the buy quantity input blank 240f is set to be a quantity, the stock price of the buy unit cost input blank 240g is set to be a buy price,



and the stock price of the stock price list is set to be a sell price.

The CPU 210 calls the profit and loss analysis program 230c from the quantity calculation program storage unit 240 in step T17a, and inputs the stock price list, the buy quantity, and the buy unit cost to the profit and  
5 loss analysis program 230c in step T17b. Next, the CPU 210 divides the stock price of the stock price list by the buy price to calculate the earning rate for each stock price in step T17c, subtracts the buy unit cost from the stock price of the stock price list to calculate a profit and loss depth in step T17d, and multiplies the profit and loss depth by the quantity to calculate the total  
10 profit or loss for each stock price in step T17e, and therefore, the corresponding calculation is finished.

When the calculation is finished in step T17f, the CPU 210 displays the calculated profit and loss analysis data (including the total profit and loss, the earning rate, and the profit or loss depth) in the quantity list window 240d  
15 in step T17g. Therefore, since the user can previously check the changes of the total profit and loss varied for each price using the buy price and quantity before transmitting a buy order (i.e., without actually buying the stocks), the user can more correctly decide a buy opinion.

Further, the profit and loss analysis program 230c may include  
20 calculations of: the commission for each stock price (i.e., (buy price + sell price) x commission rate); the commission rate (i.e., commission / (buy price + sell price)); the net profit or loss for each stock price (i.e., total profit or loss - commission); the net profit or loss rate (i.e., (total profit or loss - commission) / total buy price); the total sell price (i.e., stock price x quantity);

and the total sell rate (i.e., total sell price / total buy price) In addition to the total profit and loss, the earning rate, and the profit or loss depth.

Next, when the user selects a buy-order transmission button, the CPU 210 outputs buy order information to the quantity analysis system 100  
5 in step T18. The process for canceling or correcting the order is matched with that of the first preferred embodiment in steps T19 to T21.

For reference, several data and calculation results applied to the embodiments of the present invention will now be described.

FIG. 16 shows an exemplified buy price list calculated by the quantity  
10 analysis system 100 or the cyber trading system 200. In the case of an unpaid buy (or a credit order), the amount of previously deposited money becomes 100%, and the maximum credit buy becomes 250% (in the case of 2.5 times), and hence, the buy price list can be expanded. In the case of  
15 desiring to buy a plurality of Issues, the user can divide the amount of previously deposited money according to a predetermined percent and assign the divided money to buy the issues. Also, since the user can  
synthetically determine the percent of the previously deposited money of the list and the corresponding money, the user can more correctly and quickly  
20 decide the buy price.

FIGs. 17(a) to 17(k) show exemplified quantity lists calculated by the  
20 quantity analysis system 100 or the cyber trading system 200. In regard to all the stock prices (the stock prices from the highest to lowest limits, the ADRs, and the advance-decline depths) in a day, the user can obtain core information (earning rate, profit and loss depth, and total profit and loss) on

the profit and loss, and trends for each stock price, varied according to respective values and mostly desired by the user, as well as the buyable quantity for each stock price, other additional information (including commission (rates) and break-even point (differences)). Therefore, by accurately obtaining the stock price information and the profit and loss information, the user can more effectively decide desired buy prices, automatically calculate the quantity according to the buy price volume, and visually check the trends of various profits and losses for respective price ranges to be generated according to selection of the buy price without calculation. Accordingly, the user can use the present embodiment as a scientific and quick tool for deciding whether to buy the desired stocks, such as restraining from buying stocks while their prices are rising, additional increasing/decreasing the buy price or quantity, and establishing limits for sale with a loss. That is, since the user can integrate various kinds of core information needed for the buy order into a point, the user can use more advanced stock investment environments. Also, the user completes the buy order by only selecting a predetermined line.

The quantity list can be edited and displayed in many various ways according to screen features or the user's requests. That is, a specific column or a specific data region can be calculated or displayed according to the user's requirements.

FIG. 18 shows an exemplified buy order screen 240 on which a buy price list according to an amount of previously deposited money, and a buy

quantity list per stock price with reference to a predetermined price (the buy price) from among many buy prices are provided, and the buy order according to selection of the buy price is automatically input through a simple operation. That is, since all calculation and information needed for the buy order is integrated and automatically displayed on the buy order screen 240, the user can finish the desired order through clicking the mouse twice.

FIG. 19 shows a comparison of the conventional buy order method to the Improved buy order according to the present invention. The improved points include the conveniences wherein the buy unit-cost and the quantity are automatically and concurrently input when the investor just clicks the mouse once, the accuracy improvements wherein the present invention completely removes incorrect inputting and mistyping of the buy unit-cost and the buy quantity, no necessity of checking correct input states after inputting data, minimization of the hand and eye operation, and minimization of operations and time caused by not using the keyboard.

The investor can complete the order by analyzing the stock price and the quantity in the quantity list, and selecting the desired buy price through one click of the mouse. Order correction and cancellation are also executed through one click of the mouse.

As described above, the cyber trading service device and method according to the embodiments of the present invention has the following merits.

1) Step 1 of determining the buy price volume: The investor can check the buy price list that includes the amount of subdivided previously

deposited money (including the orderable price and the credit order price) only through one click of the mouse, and by synthetically determining the percent and the corresponding price and selecting a specific price, the investor can fix it as the buy price.

5           2) Step 2 of analyzing the buy unit-cost: The investor can automatically check stock price information (including stock prices, ADRs and advance-decline depths) from the highest to lowest limits through a table format. Also, by synthetically checking the stock prices, ADRs and advance-decline depths, the investor experiences synergy effects and can more  
10 accurately decide buy price regions.

3) Step 3 of calculating the buy quantity: By clicking the mouse once, the investor can automatically know the buyable quantity for each stock price according to the buy price.

4) Step 4 of the buy order: By clicking the mouse once on the  
15 quantity list, the investor can automatically and concurrently input the buy quantity and the buy unit-cost, and execute the order. Also, the investor can easily execute cancellation or correction orders. The time required for the buy order is reduced to 1 to 3 seconds compared to the conventional required time of more than 10 seconds. Since incorrect data inputs of the  
20 buy price and the buy quantity do not occur, undesirable loss is prevented. The present invention prevents the investor from mistyping the buy price and the buy quantity, and does not require the 10 keyboard inputs normally needed for inputting the desired price and quantity. Conventionally, the investor had to alternately look at the monitor and the keyboard more than

four times, and the investor can now only view the monitor. It is no longer required for the investor to finally check whether the buy quantity and the corresponding unit cost are accurately input before transmitting the order, to analyze buy-related information generated after the input of the order, and to alternately use the keyboard and the mouse for inputting numbers.

5           6) Simulation of the profit and loss analysis: The investor can use various profit and loss services for the respective stock prices using the buy unit cost and the buy quantity before transmitting the buy order, and accordingly, since the investor can check various profits and losses without actually buying the stocks, the investor can determine the volume and trends of the profit and loss and receive services for supporting buy and sell decisions such as restraining from buying stocks while their prices are rising, deciding to cancel the buy, additional increasing or reducing the buy price and quantity, modifying the buy price, previously determining the sell price, and determining the price of a sale with a loss. The conventional method  
10           does not have the concept of profit and loss before the buy.  
15

          6) Catching of additional information: The investor can more accurately decide the buy order through checking the commissions, the commission rates, the break-even points, and the break-even differences. In  
20           the case of daily trading, when the investor sells the stocks with the price of over the buy price by one nominal price (one click or tick), the investor can previously check whether he earns or loses for each stock price.

          7) Synergy effects: Since the investor can check buy-related core information such as the buy price list, the quantity list, and various kinds of

profit and loss information in an integrated environment for the respective price regions, he can obtain a more profitable investment environment.

8) Two-dimensional calculation: According to the present invention, two-dimensional buy-related information with respect to all price regions can  
5 be calculated once. Also, since the stock price and quantity analysis data are displayed in the table format, the investor can check much integrated data at a first attempt.

9) Application in the case of sell order: When the investor is holding the stocks, the process for setting a portion of estimated stock prices to be a  
10 sell price (a sell price list), calculating the sell quantity for each stock price according to the sell price (a quantity list), and automatically performing the sell order, is matched with that of the present buy quantity service, and hence, the identical method can be applied to the case of selling the stocks.

10) (a) The investor saves mental energy spent determining the  
15 stock prices, the buy prices, and the quantity analysis. (b) Since the time required for calculating the stock prices, dividing the amount of previously deposited money, analyzing the quantity, and performing the buy order is saved, time expenses are reduced. (c) It is not necessary for the investor to put memo sheets, a pencil, and an electronic calculator before the monitor.  
20 (d) Since the investor can previously print out the quantity list and adhere it to the monitor to perform the transactions, the investor can more effectively analyze the stock prices and the quantity. (e) Since the daily trader can immediately check the break-even points on the buy order screen and the present price screen, he can catch more clear sell-reference timing and

maximize his profits.

While this invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not limited to the disclosed  
5       embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.



**WHAT IS CLAIMED IS:**

1. A cyber trading service device for providing cyber trading services according to requests by a plurality of client PCs (personal computers), comprising:

5           a main controller for calculating a buy price list when a buy price calculation request is received from a corresponding client PC, and calculating a quantity list and outputting calculation results data when a calculation request signal on the quantity list is received; and

          a quantity list calculator for dividing an amount of previously  
10       deposited money by percent (%) to calculate the buy price list when the amount of previously deposited money is received through the main controller, and calculating the quantity list that is buy information for respective stock prices from the corresponding issue's standard price and buy price and outputting corresponding calculation results to the  
15       corresponding client PC when the user's issue code and buy price are input.

          2. The device of claim 1, further comprising a communication controller for transmitting data to the main controller when the data including an account number, an issue code, and a buy price are input from the client PC according to the user's selection, and outputting the buy price list or the  
20       quantity list calculated according to control by the main controller to the corresponding client PC through a communication network.

          3. The device of claim 1 or 2, further comprising:

          a client information database for storing user IDs, passwords,

account information and personal information, and providing data stored for determining registered user states when the client PC user logs in so as to perform cyber trading;

an account information database for storing the user's previously  
5 deposited money information; and

a stock price information database for storing stock price information periodically input by an external stock information provider, including a corresponding issue's standard price, present price, nominal price, sell quantity for each nominal price, buy quantity, transaction quantity,  
10 and the highest and lowest limit prices.

4. The device of claim 3, further comprising:

a management program input unit for receiving a management program related to the cyber stock transactions used by a manager at the main controller, and a calculation program for calculating the quantity list;  
15 and

a quantity calculation program database for storing a quantity list calculation program input from the management program input unit.

5. The device of claim 4, wherein the quantity calculation program database comprises:

a buy price calculation program for using the account information's previously deposited money amount to calculate the buy price's volume list;  
20 and

a quantity calculation program for calculating stock prices to which

the nominal prices of from the highest limit to the lowest limit of the corresponding issue are applied, advance-decline ratios (ADR) and advance-decline depth lists, buyable quantity for each stock price according to the buy price, actual buy price, commission, commission rate, break-even point, and  
5 break-even difference.

6. The device of claim 5, wherein the calculation process by the buy price calculation program includes the steps of:

calculating a percent (%) list of from 100 to 1%; and

10 multiplying the respective percent values of the percent list by the previously deposited money amount input from the account information database to calculate a buy price list.

7. The device of claim 5, wherein the calculation process by the quantity calculation program includes the steps of:

15 calculating the highest and lowest limit prices with reference to the corresponding issue's standard price, and applying the nominal prices of from the highest to the lowest limit prices to calculate a stock list;

dividing the respective stock prices of the stock price list by the standard price to calculate the ADRs for each stock price;

20 subtracting the standard price from the respective stock prices of the stock price list to calculate the advance-decline depth for the respective stock prices;

dividing the buy price by the respective stock prices to calculate the buyable quantity for each stock price;

multiplying the stock price by the buy quantity to calculate the

actual buy price for each stock price;

multiplying the actual buy price by the commission rate and adding the default commission to the multiplied results to calculate the commission for each stock price;

5           dividing the commission by the actual buy price to calculate the commission rate for each stock price;

multiplying the stock price by the break-even point rate to calculate the break-even point for each stock price; and

10           subtracting the stock price from the break-even point to calculate the break-even difference.

8. A cyber trading service device for receiving stock information from a securities corporation's server and providing a cyber trading service, comprising:

15           a quantity calculation program storage unit for calculating a quantity list using a corresponding issue's standard price and buy price;

          a CPU (central processing unit) for controlling to load a corresponding program in the quantity calculation program storage unit to an inner main memory, execute it, and output calculation results of the quantity list; and

20           a display for displaying the calculation results output by the CPU to a user.

9. The device of claim 8, wherein the quantity calculation program storage unit comprises:

a buy price calculation program for using the amount of previously deposited money of account information to calculate the buy price's volume list;

5 a quantity calculation program for calculating stock prices to which the nominal prices of from the highest limit to the lowest limit of the corresponding issue are applied, advance-decline ratios (ADR) and advance-decline depth lists, buyable quantity for each stock price according to the buy price, actual buy price, commission, commission rate, break-even point, and break-even difference; and

10 a profit and loss analysis program for setting the quantity In a buy quantity input blank to be a buy quantity, the stock price in the buy unit cost input blank to be a buy price, and the stock price in the stock price list to be a sell price, to perform profit and loss analysis.

15 10. The device of claim 9, wherein the profit and loss analysis program includes steps of:

dividing the stock price in the stock price list by the buy price to calculate the earning rate;

subtracting the buy unit cost from the stock price in the stock price list to calculate the profit and loss depth; and

20 multiplying the profit and loss depth by the quantity to calculate the total profit and loss for each stock price.

11. A cyber trading service method for providing a cyber trading service according to requests by a plurality of client PCs, comprising:

transmitting stock price information to a corresponding client PC

when a user selects a predetermined issue on a buy order screen through a cyber trading system in the client PC;

receiving the user's account number from the client PC, inputting a previously deposited money amount to a previously established calculation  
5 program to calculate a buy price list, and outputting calculation results to the corresponding client PC; and

receiving the user's issue code and buy price from the client PC, and inputting the corresponding issue's standard price and buy price to the previously established calculation program to calculate a quantity list, and  
10 outputting calculation results to the corresponding client PC.

12. The method of claim 11, wherein the quantity list includes information on buyable quantities, actual buy prices, commissions, commission rates, break-even points, and break-even differences for all stock prices in the corresponding day.

15 13. A cyber trading service method for receiving stock information from a securities corporation's server and providing the cyber trading service, comprising:

(a) a CPU displaying stock price information on a buy order screen when a user logs in to a cyber trading system in a client PC;

20 (b) the CPU receiving previously deposited money information from the securities corporation's server when the user selects a buy price calculation on the buy order screen, using a corresponding calculation program to calculate a buy price list, and displaying the buy price list in a buy

price list window;

(c) the CPU using a corresponding calculation program to calculate the buy quantity corresponding to a stock price list and a stock price, and displaying it in a quantity list window when the user selects a  
5 predetermined price in the buy price list window;

(d) the CPU setting a selected stock price to be a buy price, the corresponding quantity to be a buy quantity, and automatically and concurrently inputting them in a buy order blank when the user selects a predetermined stock price in the quantity list window; and

10 (e) the CPU using a corresponding calculation program to calculate the profit and loss analysis for each stock price and displaying the same in the quantity list window when the user selects a predetermined stock price in the quantity list window.

14. The method of claim 13, wherein in (b), the calculation of the  
15 buy price includes:

calculating a percent (%) list of from 1 to 100%; and  
multiplying the previously deposited money amount by each percent to calculate a buy price list for each percent.

15. The method of claim 14, wherein in (c), the calculation of the  
20 quantity list comprises:

calculating the highest and lowest limit prices with reference to the corresponding issue's standard price, and applying the nominal prices of from the highest to the lowest limit prices to calculate a stock list;

dividing the respective stock prices of the stock price list by the

standard price to calculate the ADRs;

subtracting the standard price from the respective stock prices of the stock price list to calculate the advance-decline depth;

dividing the buy price by the respective stock prices to calculate the buyable quantity;

multiplying the stock price by the buy quantity to calculate the actual buy price;

multiplying the actual buy price by the commission rate and adding the default commission to the multiplied results to calculate the commission;

dividing the commission by the actual buy price to calculate the commission rate;

multiplying the stock price by the break-even point rate to calculate the break-even point; and

subtracting the stock price from the break-even point to calculate the break-even difference.

16. The method of claim 15, wherein in (e), the profit and loss analysis process includes the steps of:

dividing the stock price in the stock price list by the buy price to calculate the earning rate;

subtracting the buy unit cost from the stock price in the stock price list to calculate the profit and loss depth;

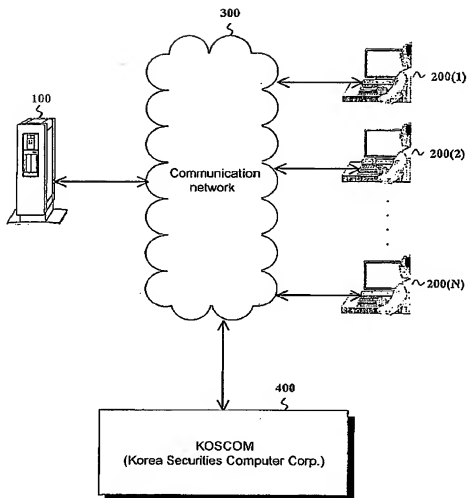
multiplying the profit and loss depth by the quantity to calculate the total profit and loss for each stock price; and

calculating the commissions, commission rates, net profits or



losses, net profit or loss rates, total sell prices and total sell rates for the  
respective stock prices.

1/30  
FIG. 1



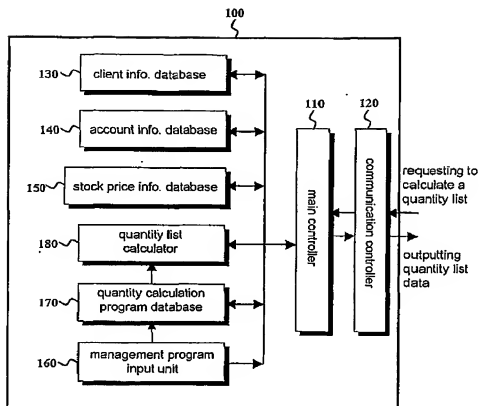
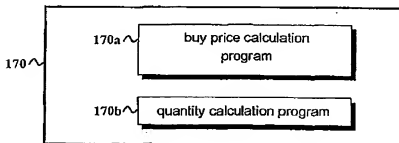
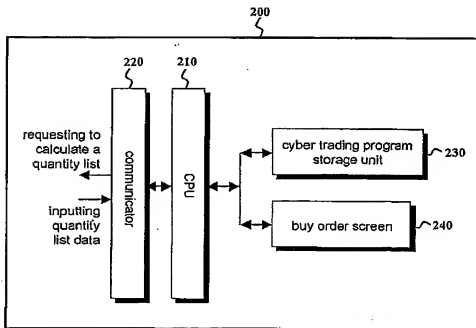
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FIG. 2

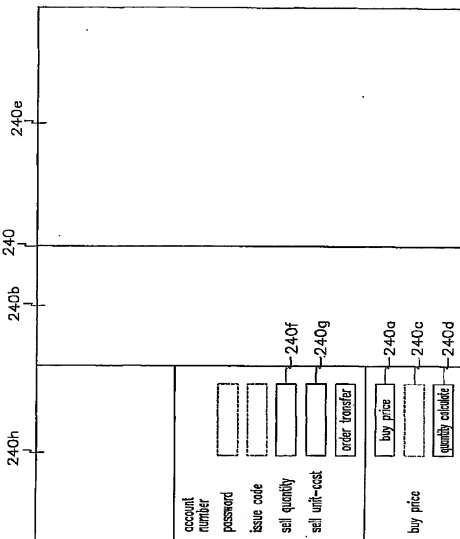
FIG. 3

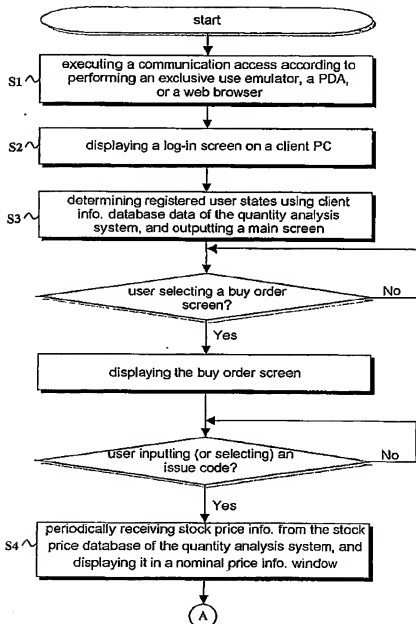


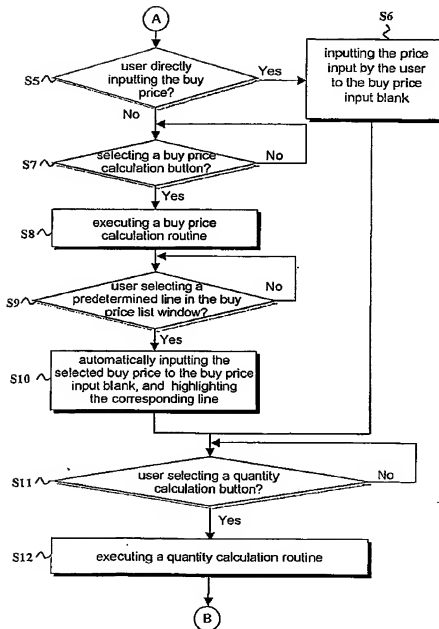
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FIG. 4

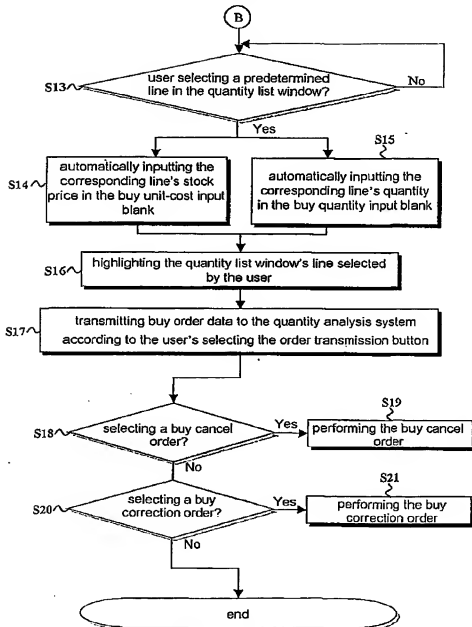
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FIG. 5

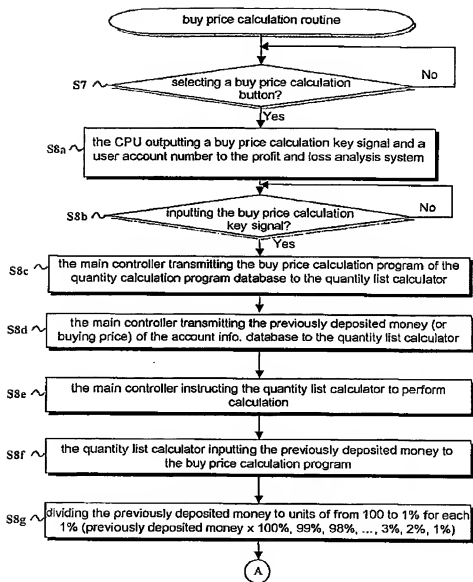


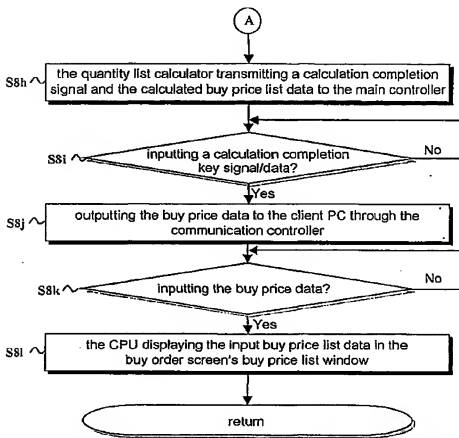
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FIG. 6A

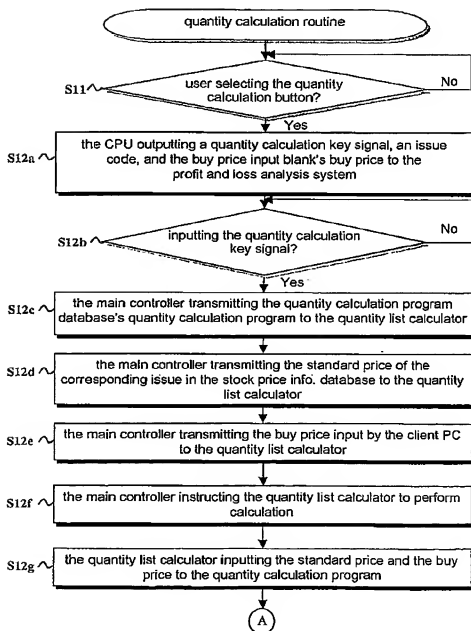
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FIG. 6B

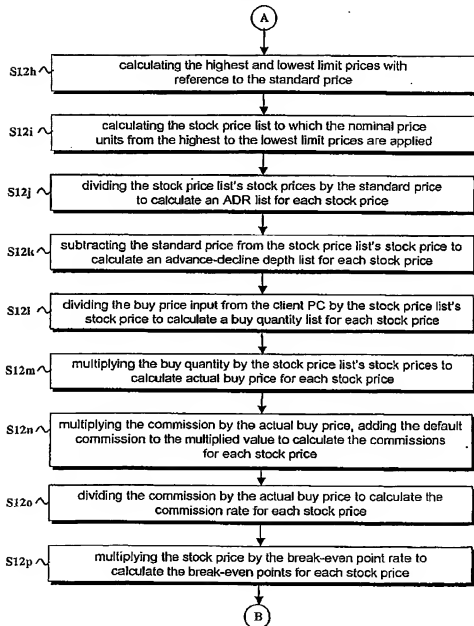
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FIG. 6C

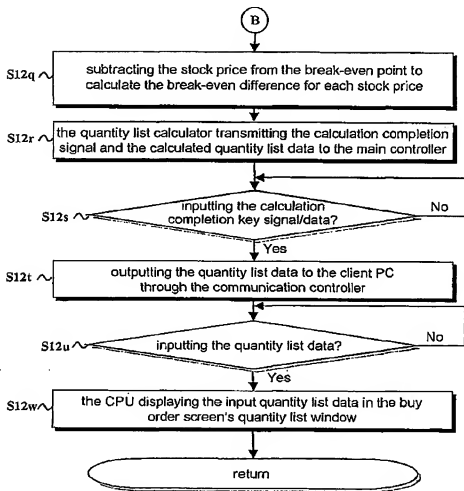


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FIG. 7A

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FIG. 7B

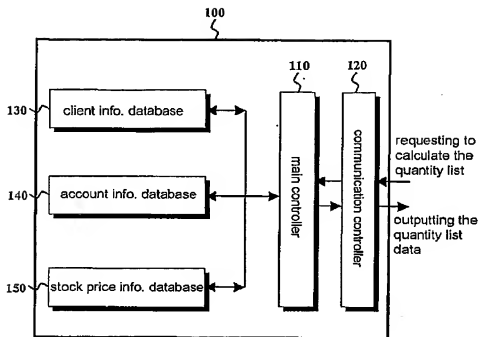
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FIG. 8A

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FIG. 8B

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FIG. 8C

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FIG. 9



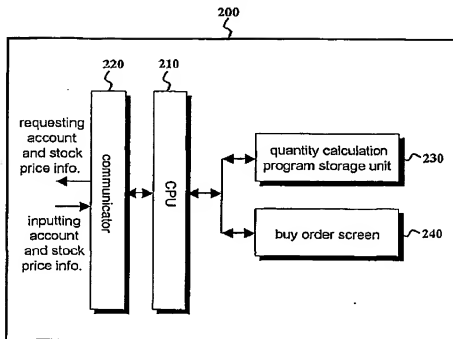
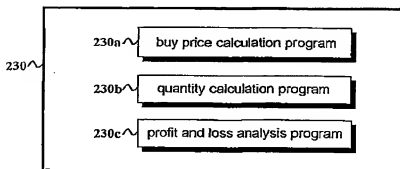
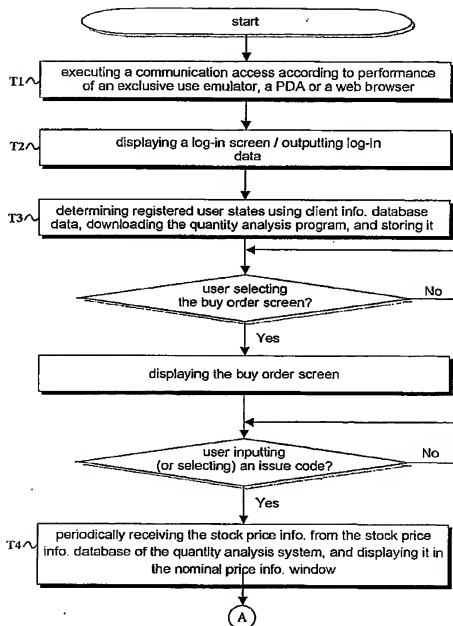
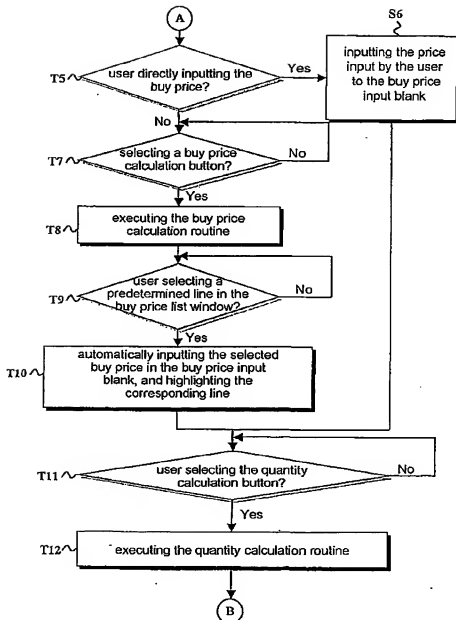
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FIG. 10

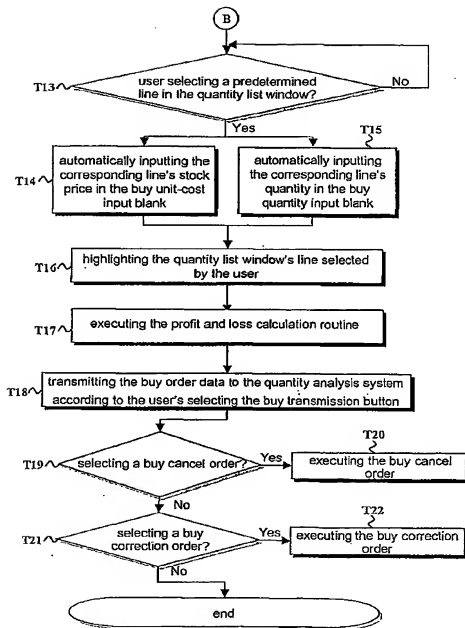
FIG. 11

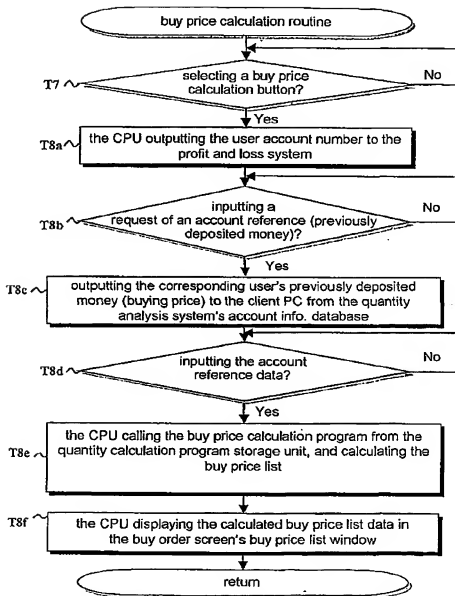


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FIG.12A



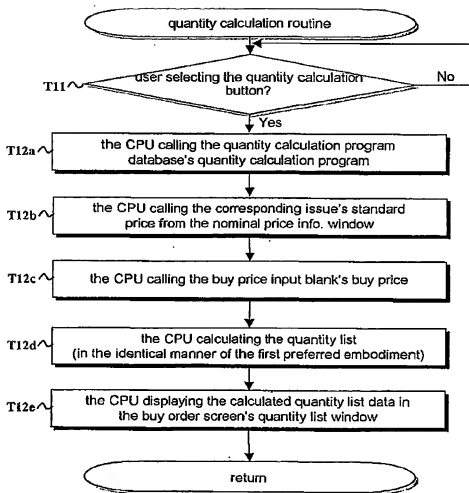
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FIG.12B

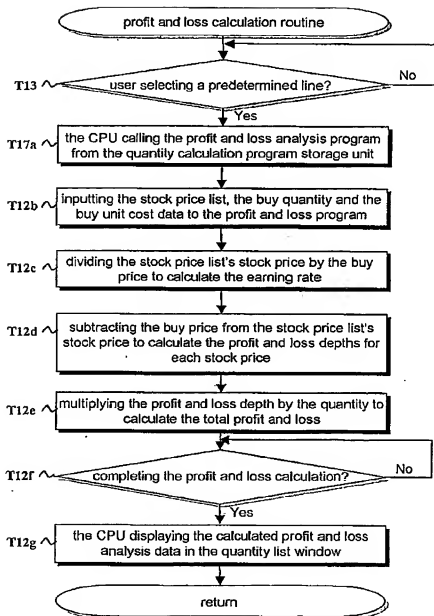
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FIG. 12C

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FIG. 13

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FIG. 14



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FIG. 15

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FIG. 16

previously deposited money 23,500,000 (buying price)

%	buy price per %	%	buy price per %
100%	23,500,000	50%	11,750,000
99%	23,265,000	49%	11,515,000
98%	23,030,000	48%	11,280,000
97%	22,795,000	47%	11,045,000
96%	22,560,000	46%	10,810,000
95%	22,325,000	45%	10,575,000
94%	22,090,000	44%	10,340,000
93%	21,855,000	43%	10,105,000
92%	21,620,000	42%	9,870,000
91%	21,385,000	41%	9,635,000
90%	21,150,000	40%	9,400,000
89%	20,915,000	39%	9,165,000
88%	20,680,000	38%	8,930,000
87%	20,445,000	37%	8,695,000
86%	20,210,000	36%	8,460,000
85%	19,975,000	35%	8,225,000
84%	19,740,000	34%	7,990,000
83%	19,505,000	33%	7,755,000
82%	19,270,000	32%	7,520,000
81%	19,035,000	31%	7,285,000
80%	18,800,000	30%	7,050,000
79%	18,565,000	29%	6,815,000
78%	18,330,000	28%	6,580,000
77%	18,095,000	27%	6,345,000
76%	17,860,000	26%	6,110,000
75%	17,625,000	25%	5,875,000
74%	17,390,000	24%	5,640,000
73%	17,155,000	23%	5,405,000
72%	16,920,000	22%	5,170,000
71%	16,685,000	21%	4,935,000
70%	16,450,000	20%	4,700,000
69%	16,215,000	19%	4,465,000
68%	15,980,000	18%	4,230,000
67%	15,745,000	17%	3,995,000
66%	15,510,000	16%	3,760,000
65%	15,275,000	15%	3,525,000
64%	15,040,000	14%	3,290,000
63%	14,805,000	13%	3,055,000
62%	14,570,000	12%	2,820,000
61%	14,335,000	11%	2,585,000
60%	14,100,000	10%	2,350,000
59%	13,865,000	9%	2,115,000
58%	13,630,000	8%	1,880,000
57%	13,395,000	7%	1,645,000
56%	13,160,000	6%	1,410,000
55%	12,925,000	5%	1,175,000
54%	12,690,000	4%	940,000
53%	12,455,000	3%	705,000
52%	12,220,000	2%	470,000
51%	11,985,000	1%	235,000

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FIG. 17A

standard price				8,500				7,750,000				8,340				total profit and loss																															
buy price				ADR				advance- decline depth				buy quantity				actual commission				break-even difference				earnings loss				total profit and loss																			
buy unit-cost				No stock price				3				4				5				6				7				8				9				10				11				12			
1				2				3				4				5				6				7				8				9				10				11				12			
1	9.860	15.00%	1.250	764	7,753,760	15,508	0.20%	0.959	69.23	18.99%	1.550	1,215,200																																			
2	9.871	15.01%	1.231	764	7,754,544	15,509	0.20%	0.960	69.24	18.99%	1.551	1,215,984																																			
3	9.881	14.77%	1.270	765	7,747,950	15,495	0.20%	0.959	69.09	19.35%	1.530	1,201,680																																			
4	9.860	14.55%	1.250	766	7,740,900	15,504	0.20%	0.959	69.02	18.83%	1.520	1,194,720																																			
5	9.850	14.63%	1.250	767	7,751,950	15,504	0.20%	0.919	68.95	18.11%	1.510	1,188,270																																			
6	9.840	14.30%	1.230	768	7,753,920	15,508	0.20%	0.908	68.88	17.99%	1.500	1,182,000																																			
7	9.830	14.42%	1.240	768	7,746,400	15,482	0.20%	0.899	68.81	17.87%	1.490	1,174,120																																			
8	9.820	14.19%	1.420	769	7,747,900	15,486	0.20%	0.888	68.74	17.75%	1.480	1,167,720																																			
9	9.810	14.07%	1.210	790	7,746,900	15,500	0.20%	0.879	68.67	17.63%	1.470	1,161,300																																			
10	9.800	13.85%	1.200	791	7,753,900	15,504	0.20%	0.868	68.60	17.51%	1.460	1,154,960																																			
11	9.790	13.72%	1.190	792	7,751,900	15,507	0.20%	0.869	68.53	17.39%	1.450	1,148,400																																			
12	9.780	13.72%	1.170	793	7,745,700	15,482	0.20%	0.858	68.46	17.27%	1.440	1,140,960																																			
13	9.770	13.60%	1.170	793	7,749,140	15,486	0.20%	0.818	68.39	17.03%	1.420	1,127,480																																			
14	9.760	13.49%	1.160	794	7,749,140	15,486	0.20%	0.808	68.32	16.87%	1.410	1,120,980																																			
15	9.750	13.37%	1.150	795	7,751,250	15,503	0.20%	0.809	68.18	16.87%	1.400	1,117,400																																			
16	9.740	13.25%	1.140	795	7,753,000	15,506	0.20%	0.788	68.14	16.55%	1.380	1,099,260																																			
17	9.730	13.14%	1.130	797	7,754,810	15,510	0.20%	0.768	68.11	16.55%	1.380	1,099,260																																			
18	9.720	13.02%	1.120	797	7,748,900	15,494	0.20%	0.778	67.97	16.43%	1.370	1,093,260																																			
19	9.710	12.91%	1.110	798	7,748,900	15,497	0.20%	0.778	67.97	16.43%	1.370	1,093,260																																			
20	9.700	12.79%	1.100	799	7,750,200	15,501	0.20%	0.768	67.90	16.31%	1.360	1,086,840																																			
21	9.690	12.57%	1.090	800	7,752,000	15,504	0.20%	0.758	67.83	16.19%	1.350	1,080,000																																			
22	9.680	12.56%	1.080	801	7,753,300	15,507	0.20%	0.748	67.76	16.07%	1.340	1,073,340																																			
23	9.670	12.44%	1.070	801	7,745,070	15,491	0.20%	0.738	67.69	15.95%	1.330	1,066,300																																			
24	9.660	12.33%	1.060	802	7,747,320	15,495	0.20%	0.728	67.62	15.83%	1.320	1,059,540																																			
25	9.650	12.21%	1.050	803	7,749,350	15,498	0.20%	0.718	67.55	15.71%	1.310	1,051,900																																			
26	9.640	12.09%	1.040	804	7,752,150	15,500	0.20%	0.707	67.48	15.59%	1.300	1,044,200																																			
27	9.630	11.97%	1.030	805	7,753,200	15,503	0.20%	0.697	67.41	15.47%	1.290	1,036,450																																			
28	9.620	11.85%	1.020	806	7,753,200	15,503	0.20%	0.687	67.41	15.47%	1.290	1,036,450																																			
29	9.610	11.74%	1.010	807	7,747,300	15,491	0.20%	0.677	67.34	15.35%	1.280	1,029,620																																			
30	9.600	11.63%	1.000	808	7,748,300	15,495	0.20%	0.677	67.27	15.33%	1.270	1,023,620																																			
31	9.590	11.51%	980	808	7,748,720	15,497	0.20%	0.667	67.20	15.21%	1.260	1,016,820																																			
32	9.580	11.40%	970	809	7,750,200	15,500	0.20%	0.657	67.13	15.09%	1.250	1,010,000																																			
33	9.570	11.28%	960	810	7,751,200	15,503	0.20%	0.647	67.06	14.97%	1.240	1,003,180																																			
34	9.560	11.16%	950	811	7,752,200	15,506	0.20%	0.637	66.99	14.85%	1.230	996,300																																			
35	9.550	11.05%	950	812	7,754,000	15,509	0.20%	0.627	66.92	14.73%	1.220	989,420																																			
36	9.540	10.94%	940	812	7,754,600	15,509	0.20%	0.617	66.85	14.61%	1.210	982,520																																			

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FIG.17B

No	stock price	ADR	advance- decline depth	buy quantity	actual price	commission	commission rate	break- even point	break-even difference	earnings ratio	profit and loss depth	total profit and loss
37	9,540	10.30%	940	812	7,746,480	15,493	0.20%	9,607	69,781	14.33%	200	974,400
38	9,500	10.81%	930	813	7,747,890	15,496	0.20%	9,597	69,711	14.27%	180	957,470
39	9,520	10.70%	920	814	7,748,280	15,498	0.20%	9,587	69,641	14.15%	180	960,520
40	9,510	10.50%	910	815	7,750,050	15,501	0.20%	9,577	69,571	14.03%	170	933,550
41	9,500	10.30%	900	816	7,752,000	15,504	0.20%	9,567	69,501	13.91%	160	948,960
42	9,490	10.35%	890	817	7,753,850	15,507	0.20%	9,557	69,431	13.79%	150	939,950
43	9,480	10.20%	880	818	7,755,640	15,509	0.20%	9,546	69,361	13.67%	140	918,980
44	9,470	10.13%	870	819	7,757,480	15,513	0.20%	9,536	69,291	13.55%	130	912,350
45	9,460	10.00%	860	819	7,757,740	15,499	0.20%	9,526	69,221	13.43%	120	917,380
46	9,450	9.88%	850	820	7,759,000	15,498	0.20%	9,516	69,151	13.31%	110	910,200
47	9,440	9.77%	840	821	7,760,240	15,500	0.20%	9,504	69,081	13.19%	100	903,100
48	9,430	9.65%	830	822	7,761,450	15,503	0.20%	9,496	69,011	13.07%	90	895,980
49	9,420	9.53%	820	823	7,762,660	15,505	0.20%	9,486	68,941	12.95%	80	888,940
50	9,410	9.42%	810	824	7,763,840	15,509	0.20%	9,476	68,871	12.83%	70	881,980
51	9,400	9.30%	800	825	7,765,000	15,510	0.20%	9,466	68,801	12.71%	60	874,950
52	9,390	9.17%	790	825	7,765,750	15,494	0.20%	9,456	68,731	12.59%	50	867,940
53	9,380	9.05%	780	826	7,766,900	15,498	0.20%	9,446	68,661	12.47%	40	860,900
54	9,370	8.93%	770	827	7,768,050	15,500	0.20%	9,436	68,591	12.35%	30	853,850
55	9,360	8.81%	760	828	7,769,080	15,502	0.20%	9,426	68,521	12.23%	20	846,800
56	9,350	8.69%	750	829	7,771,150	15,509	0.20%	9,415	68,451	12.11%	10	839,750
57	9,340	8.60%	740	830	7,773,200	15,504	0.20%	9,405	68,381	11.99%	0	832,700
58	9,330	8.49%	730	831	7,775,230	15,508	0.20%	9,395	68,311	11.87%	90	825,650
59	9,320	8.37%	720	832	7,777,240	15,508	0.20%	9,385	68,241	11.75%	80	818,600
60	9,310	8.26%	710	832	7,779,250	15,492	0.20%	9,375	68,171	11.63%	70	811,550
61	9,300	8.14%	700	833	7,781,260	15,494	0.20%	9,365	68,101	11.51%	60	804,500
62	9,290	8.02%	690	834	7,783,260	15,498	0.20%	9,355	68,031	11.39%	50	797,450
63	9,280	7.91%	680	835	7,785,270	15,499	0.20%	9,345	67,961	11.27%	40	790,400
64	9,270	7.80%	670	836	7,787,270	15,501	0.20%	9,335	67,891	11.15%	30	783,350
65	9,260	7.68%	660	837	7,789,260	15,503	0.20%	9,325	67,821	11.03%	20	776,300
66	9,250	7.56%	650	838	7,791,250	15,505	0.20%	9,315	67,751	10.91%	10	769,250
67	9,240	7.44%	640	839	7,793,240	15,509	0.20%	9,305	67,681	10.79%	0	762,200
68	9,230	7.33%	630	840	7,795,230	15,508	0.20%	9,295	67,611	10.67%	90	755,150
69	9,220	7.21%	620	841	7,797,220	15,508	0.20%	9,285	67,541	10.55%	80	748,100
70	9,210	7.09%	610	842	7,799,210	15,510	0.20%	9,275	67,471	10.43%	70	741,050
71	9,200	6.98%	600	843	7,801,200	15,498	0.20%	9,265	67,401	10.31%	60	734,000
72	9,190	6.86%	590	844	7,803,190	15,494	0.20%	9,255	67,331	10.19%	50	726,950
73	9,180	6.74%	580	845	7,805,180	15,497	0.20%	9,245	67,261	10.07%	40	719,900
74	9,170	6.63%	570	846	7,807,170	15,499	0.20%	9,235	67,191	9.95%	30	712,850
75	9,160	6.51%	560	847	7,809,160	15,501	0.20%	9,225	67,121	9.83%	20	705,800
76	9,150	6.40%	550	847	7,811,150	15,500	0.20%	9,215	67,051	9.71%	10	698,750



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FIG.17C

No	stock price	ADR	advance- decline depth	buy quantity	actual buy price	commission rate	break- even point	break-even difference	earn- ing rate	profit and loss	total profit and loss
76	8,140	6.26%	540	848	7,750.720	15.501	0.20%	83.93	8.53%	500	578.400
77	8,130	6.18%	530	849	7,751.370	15.503	0.20%	83.91	8.53%	500	578.400
78	8,120	6.05%	520	850	7,752.000	15.504	0.20%	83.84	8.53%	770	655.270
79	8,110	5.95%	510	851	7,752.610	15.505	0.20%	83.74	8.23%	770	655.270
80	8,100	5.81%	500	852	7,753.200	15.506	0.20%	83.63	8.11%	760	639.750
81	8,090	5.67%	490	853	7,753.770	15.508	0.20%	83.58	8.87%	750	639.750
82	8,080	5.50%	480	854	7,754.320	15.509	0.20%	83.44	8.87%	740	624.150
83	8,070	5.47%	470	855	7,754.850	15.510	0.20%	83.40	8.75%	730	624.150
84	8,060	5.35%	460	856	7,755.300	15.493	0.20%	83.23	8.83%	720	616.900
85	8,050	5.25%	450	857	7,755.780	15.495	0.20%	83.13	8.83%	710	607.760
86	8,040	5.12%	440	858	7,756.200	15.498	0.20%	83.03	8.83%	680	592.020
87	8,030	5.05%	430	859	7,756.600	15.499	0.20%	82.93	8.83%	680	592.020
88	8,020	4.92%	420	860	7,757.000	15.498	0.20%	82.83	8.83%	700	599.900
89	8,010	4.78%	410	861	7,757.400	15.499	0.20%	82.73	8.83%	680	584.120
90	8,000	4.65%	400	862	7,757.800	15.498	0.20%	82.63	8.83%	680	584.120
91	7,990	4.53%	390	863	7,758.200	15.499	0.20%	82.53	8.83%	680	584.120
92	7,980	4.42%	380	864	7,758.600	15.500	0.20%	82.43	8.83%	680	584.120
93	7,970	4.30%	370	865	7,759.000	15.501	0.20%	82.33	8.83%	680	584.120
94	7,960	4.19%	360	866	7,759.400	15.501	0.20%	82.23	8.83%	680	584.120
95	7,950	4.07%	350	867	7,759.800	15.502	0.20%	82.13	8.83%	680	584.120
96	7,940	3.95%	340	868	7,760.200	15.502	0.20%	82.03	8.83%	680	584.120
97	7,930	3.83%	330	869	7,760.600	15.503	0.20%	81.93	8.83%	680	584.120
98	7,920	3.72%	320	870	7,761.000	15.503	0.20%	81.83	8.83%	680	584.120
99	7,910	3.60%	310	871	7,761.400	15.504	0.20%	81.73	8.83%	680	584.120
100	7,900	3.48%	300	872	7,761.800	15.504	0.20%	81.63	8.83%	680	584.120
101	7,890	3.36%	290	873	7,762.200	15.504	0.20%	81.53	8.83%	680	584.120
102	7,880	3.24%	280	874	7,762.600	15.505	0.20%	81.43	8.83%	680	584.120
103	7,870	3.14%	270	875	7,763.000	15.505	0.20%	81.33	8.83%	680	584.120
104	7,860	3.02%	260	876	7,763.400	15.505	0.20%	81.23	8.83%	680	584.120
105	7,850	2.91%	250	877	7,763.800	15.505	0.20%	81.13	8.83%	680	584.120
106	7,840	2.79%	240	878	7,764.200	15.505	0.20%	81.03	8.83%	680	584.120
107	7,830	2.67%	230	879	7,764.600	15.505	0.20%	80.93	8.83%	680	584.120
108	7,820	2.56%	220	880	7,765.000	15.505	0.20%	80.83	8.83%	680	584.120
109	7,810	2.44%	210	881	7,765.400	15.505	0.20%	80.73	8.83%	680	584.120
110	7,800	2.33%	200	882	7,765.800	15.505	0.20%	80.63	8.83%	680	584.120
111	7,790	2.21%	190	883	7,766.200	15.505	0.20%	80.53	8.83%	680	584.120
112	7,780	2.09%	180	884	7,766.600	15.505	0.20%	80.43	8.83%	680	584.120
113	7,770	1.98%	170	885	7,767.000	15.505	0.20%	80.33	8.83%	680	584.120
114	7,760	1.86%	160	886	7,767.400	15.505	0.20%	80.23	8.83%	680	584.120
115	7,750	1.74%	150	887	7,767.800	15.505	0.20%	80.13	8.83%	680	584.120

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FIG. 17D

No	stock price	ADR	advance- decline depth	buy quantity	actual commission	commission rate	break- even point	break-even difference	earliest rate	profit-and- loss depth	total profit- and-loss
116	8,740	1.63%	140	887	7,752,380	15,505	0.20%	8,801	-8,118	4,800	354,800
117	8,730	1.51%	130	888	7,752,240	15,504	0.20%	8,791	6,111	4,680	346,320
118	8,720	1.40%	120	888	7,752,080	15,504	0.20%	8,781	6,104	4,560	337,820
119	8,710	1.28%	110	890	7,751,900	15,504	0.20%	8,771	6,097	4,440	329,300
120	8,700	1.16%	100	891	7,751,700	15,503	0.20%	8,761	6,090	4,320	320,780
121	8,690	1.05%	90	892	7,751,480	15,503	0.20%	8,751	6,083	4,200	312,250
122	8,680	0.93%	80	893	7,751,340	15,503	0.20%	8,741	6,076	4,080	303,720
123	8,670	0.81%	70	894	7,750,980	15,502	0.20%	8,731	6,069	3,960	295,200
124	8,660	0.70%	60	895	7,750,700	15,501	0.20%	8,721	6,062	3,840	286,680
125	8,650	0.58%	50	896	7,750,400	15,501	0.20%	8,711	6,055	3,720	278,150
126	8,640	0.47%	40	897	7,750,080	15,500	0.20%	8,700	6,048	3,600	269,630
127	8,630	0.35%	30	898	7,749,740	15,499	0.20%	8,690	6,041	3,480	261,100
128	8,620	0.23%	20	899	7,749,380	15,499	0.20%	8,680	6,034	3,360	252,570
129	8,610	0.12%	10	900	7,749,000	15,497	0.20%	8,669	6,027	3,240	244,050
130	8,600	0.01%	0	901	7,748,600	15,496	0.20%	8,659	6,020	3,120	235,520
131	8,590	-0.10%	-10	902	7,748,180	15,495	0.20%	8,649	6,013	3,000	226,990
132	8,580	-0.23%	-20	903	7,747,740	15,495	0.20%	8,639	6,006	2,880	218,460
133	8,570	-0.35%	-30	904	7,747,280	15,495	0.20%	8,630	5,999	2,760	209,930
134	8,560	-0.47%	-40	905	7,746,800	15,494	0.20%	8,620	5,992	2,640	201,400
135	8,550	-0.58%	-50	906	7,746,300	15,494	0.20%	8,610	5,985	2,520	192,870
136	8,540	-0.70%	-60	907	7,745,820	15,500	0.20%	8,600	5,978	2,400	184,340
137	8,530	-0.81%	-70	909	7,753,770	15,508	0.20%	8,590	5,971	2,280	175,810
138	8,520	-0.93%	-80	910	7,753,200	15,508	0.20%	8,580	5,964	2,160	167,280
139	8,510	-1.05%	-90	911	7,752,810	15,505	0.20%	8,570	5,957	2,040	158,750
140	8,500	-1.16%	-100	912	7,752,000	15,504	0.20%	8,560	5,950	1,920	150,220
141	8,490	-1.28%	-110	913	7,751,370	15,503	0.20%	8,549	5,943	1,800	141,690
142	8,480	-1.40%	-120	914	7,750,750	15,503	0.20%	8,539	5,936	1,680	133,160
143	8,470	-1.51%	-130	915	7,750,160	15,500	0.20%	8,529	5,929	1,560	124,630
144	8,460	-1.63%	-140	916	7,749,580	15,499	0.20%	8,519	5,922	1,440	116,100
145	8,450	-1.74%	-150	917	7,748,950	15,497	0.20%	8,509	5,915	1,320	107,570
146	8,440	-1.86%	-160	918	7,747,720	15,496	0.20%	8,499	5,908	1,200	99,040
147	8,430	-1.98%	-170	919	7,747,170	15,494	0.20%	8,489	5,901	1,080	90,510
148	8,420	-2.09%	-180	921	7,754,820	15,510	0.20%	8,479	5,894	960	81,980
149	8,410	-2.21%	-190	922	7,754,020	15,508	0.20%	8,469	5,887	840	73,450
150	8,400	-2.33%	-200	923	7,753,200	15,506	0.20%	8,459	5,880	720	64,920
151	8,390	-2.45%	-210	924	7,752,260	15,505	0.20%	8,449	5,873	600	56,390
152	8,380	-2.56%	-220	925	7,751,280	15,504	0.20%	8,439	5,866	480	47,860
153	8,370	-2.67%	-230	926	7,750,280	15,503	0.20%	8,429	5,859	360	39,330
154	8,360	-2.79%	-240	927	7,749,720	15,499	0.20%	8,419	5,852	240	30,800
155	8,350	-2.91%	-250	928	7,748,800	15,498	0.20%	8,409	5,845	120	22,270

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FIG.17E

No	stock price	ADR	entrance betting depth	buy quantity	actual buy price	commission	commission rate	break- even point	break-even difference	betting rate	profit and loss depth	total profit and loss
150	8.340	-3.03%	-280	929	7,747,990	15,495	0.20%	8,939	59.93	0.00%	0	0
151	8.350	-3.14%	-270	930	7,747,990	15,494	0.20%	8,938	59.91	-0.12%	-10	-5,300
152	8.360	-3.26%	-260	932	7,754,260	15,508	0.20%	8,978	58.84	-0.24%	-20	-10,600
153	8.370	-3.38%	-250	933	7,754,260	15,508	0.20%	8,989	59.17	-0.35%	-30	-15,900
154	8.380	-3.49%	-240	935	7,752,200	15,503	0.20%	8,988	59.17	-0.46%	-40	-21,200
155	8.390	-3.60%	-230	935	7,751,150	15,502	0.20%	8,948	59.03	-0.58%	-50	-26,500
156	8.400	-3.72%	-220	936	7,750,980	15,500	0.20%	8,938	57.95	-0.70%	-60	-31,800
157	8.410	-3.84%	-210	937	7,748,980	15,498	0.20%	8,938	57.89	-0.81%	-70	-37,100
158	8.420	-3.95%	-200	938	7,747,880	15,498	0.20%	8,918	57.82	-0.93%	-80	-42,400
159	8.430	-4.07%	-190	940	7,755,000	15,510	0.20%	8,938	57.75	-1.05%	-90	-47,700
160	8.440	-4.19%	-180	941	7,753,840	15,508	0.20%	8,938	57.68	-1.20%	-100	-53,000
161	8.450	-4.31%	-170	942	7,752,690	15,505	0.20%	8,938	57.61	-1.32%	-110	-58,300
162	8.460	-4.42%	-160	943	7,751,480	15,503	0.20%	8,978	57.54	-1.44%	-120	-63,600
163	8.470	-4.54%	-150	944	7,750,240	15,500	0.20%	8,957	57.47	-1.56%	-130	-68,900
164	8.480	-4.65%	-140	945	7,749,040	15,498	0.20%	8,947	57.40	-1.68%	-140	-74,200
165	8.490	-4.77%	-130	946	7,747,740	15,495	0.20%	8,937	57.33	-1.80%	-150	-79,500
166	8.500	-4.88%	-120	948	7,745,640	15,500	0.20%	8,937	57.26	-1.92%	-160	-84,800
167	8.510	-5.00%	-110	949	7,743,330	15,507	0.20%	8,927	57.19	-2.04%	-170	-90,100
168	8.520	-5.12%	-100	950	7,742,000	15,504	0.20%	8,917	57.12	-2.16%	-180	-95,400
169	8.530	-5.23%	-90	951	7,740,650	15,501	0.20%	8,907	57.05	-2.28%	-190	-100,700
170	8.540	-5.35%	-80	952	7,739,280	15,498	0.20%	8,937	56.99	-2.40%	-200	-106,000
171	8.550	-5.47%	-70	953	7,747,890	15,498	0.20%	8,917	56.91	-2.52%	-210	-111,300
172	8.560	-5.58%	-60	955	7,754,000	15,509	0.20%	8,917	56.77	-2.64%	-220	-116,600
173	8.570	-5.70%	-50	955	7,753,100	15,508	0.20%	8,917	56.70	-2.76%	-230	-121,900
174	8.580	-5.81%	-40	957	7,751,700	15,503	0.20%	8,917	56.63	-2.88%	-240	-127,200
175	8.590	-5.93%	-30	958	7,750,220	15,500	0.20%	8,927	56.55	-3.00%	-250	-132,500
176	8.600	-6.05%	-20	959	7,748,720	15,497	0.20%	8,937	56.48	-3.12%	-260	-137,800
177	8.610	-6.16%	-10	960	7,747,200	15,494	0.20%	8,928	56.41	-3.24%	-270	-143,100
178	8.620	-6.28%	0	962	7,753,720	15,507	0.20%	8,918	56.34	-3.36%	-280	-148,400
179	8.630	-6.40%	10	963	7,752,150	15,504	0.20%	8,908	56.35	-3.48%	-290	-153,700
180	8.640	-6.51%	20	964	7,750,550	15,501	0.20%	8,909	56.28	-3.60%	-300	-159,000
181	8.650	-6.63%	30	965	7,748,950	15,498	0.20%	8,909	56.21	-3.72%	-310	-164,300
182	8.660	-6.74%	40	966	7,747,320	15,495	0.20%	8,909	56.14	-3.84%	-320	-169,600
183	8.670	-6.86%	50	968	7,753,690	15,507	0.20%	8,909	56.07	-3.96%	-330	-174,900
184	8.680	-6.97%	60	968	7,752,700	15,506	0.20%	8,909	56.00	-4.08%	-340	-180,200
185	8.690	-7.09%	70	971	7,750,300	15,504	0.20%	8,909	55.93	-4.20%	-350	-185,500
186	8.700	-7.21%	80	971	7,748,580	15,497	0.20%	8,909	55.86	-4.32%	-360	-190,800
187	8.710	-7.33%	90	972	7,746,940	15,494	0.20%	8,909	55.79	-4.44%	-370	-196,100
188	8.720	-7.44%	100	974	7,753,040	15,505	0.20%	8,916	55.72	-4.56%	-380	-201,400
189	8.730	-7.56%	110	975	7,751,250	15,503	0.20%	8,906	55.65	-4.68%	-390	-206,700

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FIG.17F

No	stock price	AOR	adverse- decline depth	buy quantity	actual buy price	commission	commission rate	break- even point	break-even difference	earnings rate	profit and loss depth	this profit and loss
167	7,940	-7.67%	-680	970	7,749,440	15,489	0.20%	7,982	32.58	-1.85%	-400	-890,240
168	7,930	-7.75%	-670	970	7,747,410	15,489	0.20%	7,982	32.58	-1.85%	-410	-900,370
169	7,920	-7.83%	-660	970	7,745,380	15,507	0.20%	7,975	32.41	-1.86%	-420	-910,500
170	7,910	-7.91%	-650	980	7,743,350	15,504	0.20%	7,965	32.24	-1.88%	-430	-920,630
171	7,900	-8.00%	-640	980	7,741,320	15,504	0.20%	7,955	32.07	-1.90%	-440	-930,760
172	7,890	-8.08%	-630	980	7,739,290	15,504	0.20%	7,945	31.90	-1.92%	-450	-940,890
173	7,880	-8.17%	-620	980	7,737,260	15,504	0.20%	7,935	31.73	-1.94%	-460	-951,020
174	7,870	-8.25%	-610	980	7,735,230	15,504	0.20%	7,925	31.56	-1.96%	-470	-961,150
175	7,860	-8.34%	-600	980	7,733,200	15,504	0.20%	7,915	31.39	-1.98%	-480	-971,280
176	7,850	-8.42%	-590	980	7,731,170	15,504	0.20%	7,905	31.22	-2.00%	-490	-981,410
177	7,840	-8.50%	-580	980	7,729,140	15,504	0.20%	7,895	31.05	-2.02%	-500	-991,540
178	7,830	-8.58%	-570	980	7,727,110	15,504	0.20%	7,885	30.88	-2.04%	-510	-1,001,670
179	7,820	-8.66%	-560	980	7,725,080	15,504	0.20%	7,875	30.71	-2.06%	-520	-1,011,800
180	7,810	-8.75%	-550	980	7,723,050	15,504	0.20%	7,865	30.54	-2.08%	-530	-1,021,930
181	7,800	-8.83%	-540	980	7,721,020	15,504	0.20%	7,855	30.37	-2.10%	-540	-1,032,060
182	7,790	-8.91%	-530	980	7,718,990	15,504	0.20%	7,845	30.20	-2.12%	-550	-1,042,190
183	7,780	-9.00%	-520	980	7,716,960	15,504	0.20%	7,835	30.03	-2.14%	-560	-1,052,320
184	7,770	-9.08%	-510	980	7,714,930	15,504	0.20%	7,825	29.86	-2.16%	-570	-1,062,450
185	7,760	-9.17%	-500	980	7,712,900	15,504	0.20%	7,815	29.69	-2.18%	-580	-1,072,580
186	7,750	-9.25%	-490	980	7,710,870	15,504	0.20%	7,805	29.52	-2.20%	-590	-1,082,710
187	7,740	-9.34%	-480	980	7,708,840	15,504	0.20%	7,795	29.35	-2.22%	-600	-1,092,840
188	7,730	-9.42%	-470	980	7,706,810	15,504	0.20%	7,785	29.18	-2.24%	-610	-1,102,970
189	7,720	-9.50%	-460	980	7,704,780	15,504	0.20%	7,775	29.01	-2.26%	-620	-1,113,100
190	7,710	-9.59%	-450	980	7,702,750	15,504	0.20%	7,765	28.84	-2.28%	-630	-1,123,230
191	7,700	-9.67%	-440	980	7,700,720	15,504	0.20%	7,755	28.67	-2.30%	-640	-1,133,360
192	7,690	-9.76%	-430	980	7,698,690	15,504	0.20%	7,745	28.50	-2.32%	-650	-1,143,490
193	7,680	-9.84%	-420	980	7,696,660	15,504	0.20%	7,735	28.33	-2.34%	-660	-1,153,620
194	7,670	-9.93%	-410	980	7,694,630	15,504	0.20%	7,725	28.16	-2.36%	-670	-1,163,750
195	7,660	-10.01%	-400	980	7,692,600	15,504	0.20%	7,715	27.99	-2.38%	-680	-1,173,880
196	7,650	-10.10%	-390	980	7,690,570	15,504	0.20%	7,705	27.82	-2.40%	-690	-1,184,010
197	7,640	-10.18%	-380	980	7,688,540	15,504	0.20%	7,695	27.65	-2.42%	-700	-1,194,140
198	7,630	-10.27%	-370	980	7,686,510	15,504	0.20%	7,685	27.48	-2.44%	-710	-1,204,270
199	7,620	-10.35%	-360	980	7,684,480	15,504	0.20%	7,675	27.31	-2.46%	-720	-1,214,400
200	7,610	-10.44%	-350	980	7,682,450	15,504	0.20%	7,665	27.14	-2.48%	-730	-1,224,530
201	7,600	-10.52%	-340	980	7,680,420	15,504	0.20%	7,655	26.97	-2.50%	-740	-1,234,660
202	7,590	-10.60%	-330	980	7,678,390	15,504	0.20%	7,645	26.80	-2.52%	-750	-1,244,790
203	7,580	-10.69%	-320	980	7,676,360	15,504	0.20%	7,635	26.63	-2.54%	-760	-1,254,920
204	7,570	-10.77%	-310	980	7,674,330	15,504	0.20%	7,625	26.46	-2.56%	-770	-1,265,050
205	7,560	-10.86%	-300	980	7,672,300	15,504	0.20%	7,615	26.29	-2.58%	-780	-1,275,180
206	7,550	-10.94%	-290	980	7,670,270	15,504	0.20%	7,605	26.12	-2.60%	-790	-1,285,310
207	7,540	-11.03%	-280	980	7,668,240	15,504	0.20%	7,595	25.95	-2.62%	-800	-1,295,440
208	7,530	-11.11%	-270	980	7,666,210	15,504	0.20%	7,585	25.78	-2.64%	-810	-1,305,570
209	7,520	-11.20%	-260	980	7,664,180	15,504	0.20%	7,575	25.61	-2.66%	-820	-1,315,700
210	7,510	-11.28%	-250	980	7,662,150	15,504	0.20%	7,565	25.44	-2.68%	-830	-1,325,830
211	7,500	-11.37%	-240	980	7,660,120	15,504	0.20%	7,555	25.27	-2.70%	-840	-1,335,960
212	7,490	-11.45%	-230	980	7,658,090	15,504	0.20%	7,545	25.10	-2.72%	-850	-1,346,090
213	7,480	-11.54%	-220	980	7,656,060	15,504	0.20%	7,535	24.93	-2.74%	-860	-1,356,220
214	7,470	-11.62%	-210	980	7,654,030	15,504	0.20%	7,525	24.76	-2.76%	-870	-1,366,350
215	7,460	-11.71%	-200	980	7,652,000	15,504	0.20%	7,515	24.59	-2.78%	-880	-1,376,480
216	7,450	-11.79%	-190	980	7,649,970	15,504	0.20%	7,505	24.42	-2.80%	-890	-1,386,610
217	7,440	-11.88%	-180	980	7,647,940	15,504	0.20%	7,495	24.25	-2.82%	-900	-1,396,740
218	7,430	-11.96%	-170	980	7,645,910	15,504	0.20%	7,485	24.08	-2.84%	-910	-1,406,870
219	7,420	-12.05%	-160	980	7,643,880	15,504	0.20%	7,475	23.91	-2.86%	-920	-1,416,999
220	7,410	-12.13%	-150	980	7,641,850	15,504	0.20%	7,465	23.74	-2.88%	-930	-1,427,129
221	7,400	-12.22%	-140	980	7,639,820	15,504	0.20%	7,455	23.57	-2.90%	-940	-1,437,259
222	7,390	-12.30%	-130	980	7,637,790	15,504	0.20%	7,445	23.40	-2.92%	-950	-1,447,389
223	7,380	-12.39%	-120	980	7,635,760	15,504	0.20%	7,435	23.23	-2.94%	-960	-1,457,519
224	7,370	-12.47%	-110	980	7,633,730	15,504	0.20%	7,425	23.06	-2.96%	-970	-1,467,649
225	7,360	-12.56%	-100	980	7,631,700	15,504	0.20%	7,415	22.89	-2.98%	-980	-1,477,779
226	7,350	-12.64%	-90	980	7,629,670	15,504	0.20%	7,405	22.72	-3.00%	-990	-1,487,909
227	7,340	-12.73%	-80	980	7,627,640	15,504	0.20%	7,395	22.55	-3.02%	-1,000	-1,498,039
228	7,330	-12.81%	-70	980	7,625,610	15,504	0.20%	7,385	22.38	-3.04%	-1,010	-1,508,169
229	7,320	-12.90%	-60	980	7,623,580	15,504	0.20%	7,375	22.21	-3.06%	-1,020	-1,518,299
230	7,310	-12.98%	-50	980	7,621,550	15,504	0.20%	7,365	22.04	-3.08%	-1,030	-1,528,429
231	7,300	-13.07%	-40	980	7,619,520	15,504	0.20%	7,355	21.87	-3.10%	-1,040	-1,538,559
232	7,290	-13.15%	-30	980	7,617,490	15,504	0.20%	7,345	21.70	-3.12%	-1,050	-1,548,689
233	7,280	-13.24%	-20	980	7,615,460	15,504	0.20%	7,335	21.53	-3.14%	-1,060	-1,558,819
234	7,270	-13.32%	-10	980	7,613,430	15,504	0.20%	7,325	21.36	-3.16%	-1,070	-1,568,949
235	7,260	-13.41%	0	980	7,611,400	15,504	0.20%	7,315	21.19	-3.18%	-1,080	-1,579,079
236	7,250	-13.49%	10	980	7,609,370	15,504	0.20%	7,305	21.02	-3.20%	-1,090	-1,589,209
237	7,240	-13.58%	20	980	7,607,340	15,504	0.20%	7,295	20.85	-3.22%	-1,100	-1,599,339
238	7,230	-13.66%	30	980	7,605,310	15,504	0.20%	7,285	20.68	-3.24%	-1,110	-1,609,469
239	7,220	-13.75%	40	980	7,603,280	15,504	0.20%	7,275	20.51	-3.26%	-1,120	-1,619,599
240	7,210	-13.83%	50	980	7,601,250	15,504	0.20%	7,265	20.34	-3.28%	-1,130	-1,629,729
241	7,200	-13.92%	60	980	7,599,220	15,504	0.20%	7,255	20.17	-3.30%	-1,140	-1,639,859
242	7,190	-14.00%	70	980	7,597,190	15,504	0.20%	7,245	20.00	-3.32%	-1,150	-1,649,989
243	7,180	-14.09%	80	980	7,595,160	15,504	0.20%	7,235	19.83	-3.34%	-1,160	-1,660,119
244	7,170	-14.17%	90	980	7,593,130	15,504	0.20%	7,225	19.66	-3.36%	-1,170	-1,670,249
245	7,160	-14.26%	100	980	7,591,100	15,504	0.20%	7,215	19.49	-3.38%	-1,180	-1,680,379
246	7,150	-14.34%	110	980	7,589,070	15,504	0.20%	7,205	19.32	-3.40%	-1,190	-1,690,509
247	7,140	-14.43%	120	980	7,587,040	15,504	0.20%	7,195	19.15	-3.42%	-1,200	-1,700,639
248	7,130	-14.51%	130	980	7,585,010	15,504	0.20%	7,185	18.98	-3.44%	-1,210	-1,710,769
249	7,120	-14.60%	140	980	7,582,980	15,504	0.20%	7,175	18.81	-3.46%	-1,220	-1,720,899
250	7,110	-14.68%	150	980	7,580,950	15,504	0.20%	7,165	18.64	-3.48%	-1,230	-1,731,029
251	7,100	-14.77%	160	980	7,578,920	15,504	0.20%	7,155	18.47	-3.50%	-1,240	-1,741,159
252	7,090	-14.85%	170	980	7,576,890	15,504	0.20%	7,145	18.30	-3.52%	-1,250	-1,751,289
253	7,080	-14.94%	180	980	7,574,860	15,504	0.20%	7,135	18.13	-3.54%	-1,260	-1,761,419
254	7,070	-15.02%	190	980	7,572,830	15,504	0.20%	7,125	17.96	-3.56%	-1,270	-1,771,549
255	7,060	-15.11%	200	980	7,570,800	15,504	0.20%	7,115	17.79	-3.58%	-1,280	-1,781,679
256	7,050	-15.19%	210	980	7,568,770	15,504	0.20%	7,105	17.62	-3.60%	-1,290	-1,791,809
257	7,040											

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FIG.17G

No.	stock price	ADR	advance- decline depth	buy quantity	actual buy price	commission	commission rate	break- even point	break-even difference	earning rate	profit and loss depth	total profit and loss
236	7,540	-12.33%	-1,050	1,028	7,751,120	15,502	0.20%	7,593	52.78	-9.55%	-800	-822,400
237	7,530	-12.44%	-1,070	1,029	7,748,370	15,497	0.20%	7,593	52.71	-9.71%	-810	-833,490
238	7,520	-12.56%	-1,090	1,031	7,753,120	15,506	0.20%	7,593	52.64	-8.83%	-820	-845,420
239	7,510	-12.67%	-1,090	1,032	7,750,320	15,501	0.20%	7,593	52.57	-9.95%	-830	-858,560
240	7,500	-12.79%	-1,100	1,034	7,753,000	15,510	0.20%	7,593	52.50	-10.07%	-840	-868,960
241	7,490	-12.91%	-1,110	1,035	7,752,150	15,504	0.20%	7,542	52.43	-10.19%	-850	-879,750
242	7,480	-13.02%	-1,120	1,036	7,748,280	15,499	0.20%	7,532	52.36	-10.31%	-860	-890,960
243	7,470	-13.14%	-1,130	1,038	7,753,850	15,508	0.20%	7,522	52.29	-10.43%	-870	-903,060
244	7,460	-13.26%	-1,140	1,039	7,750,940	15,502	0.20%	7,512	52.22	-10.55%	-880	-914,320
245	7,450	-13.37%	-1,150	1,040	7,748,000	15,496	0.20%	7,502	52.15	-10.67%	-890	-925,600
246	7,440	-13.49%	-1,160	1,042	7,745,480	15,505	0.20%	7,492	52.08	-10.79%	-900	-937,000
247	7,430	-13.60%	-1,170	1,043	7,748,460	15,499	0.20%	7,482	52.01	-10.91%	-910	-949,300
248	7,420	-13.72%	-1,180	1,045	7,753,800	15,502	0.20%	7,472	51.94	-11.03%	-920	-961,000
249	7,410	-13.84%	-1,190	1,046	7,753,800	15,502	0.20%	7,462	51.87	-11.15%	-930	-972,400
250	7,400	-13.95%	-1,200	1,047	7,743,800	15,495	0.20%	7,446	51.79	-11.27%	-940	-984,160
251	7,390	-14.07%	-1,210	1,049	7,749,110	15,504	0.20%	7,436	51.72	-11.39%	-950	-995,910
252	7,380	-14.19%	-1,220	1,050	7,745,000	15,498	0.20%	7,426	51.65	-11.51%	-960	-1,006,000
253	7,370	-14.30%	-1,230	1,052	7,753,240	15,505	0.20%	7,416	51.58	-11.63%	-970	-1,016,400
254	7,360	-14.42%	-1,240	1,053	7,753,080	15,500	0.20%	7,412	51.52	-11.75%	-980	-1,026,960
255	7,350	-14.53%	-1,250	1,055	7,754,250	15,509	0.20%	7,401	51.45	-11.87%	-990	-1,037,450
256	7,340	-14.65%	-1,260	1,056	7,751,040	15,502	0.20%	7,391	51.38	-11.99%	-1,000	-1,047,900
257	7,330	-14.77%	-1,270	1,057	7,747,810	15,496	0.20%	7,381	51.31	-12.11%	-1,010	-1,058,570
258	7,320	-14.88%	-1,280	1,058	7,751,880	15,504	0.20%	7,371	51.24	-12.23%	-1,020	-1,069,180
259	7,310	-15.00%	-1,290	1,060	7,748,600	15,497	0.20%	7,361	51.17	-12.35%	-1,030	-1,081,800

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**FIG. 18**

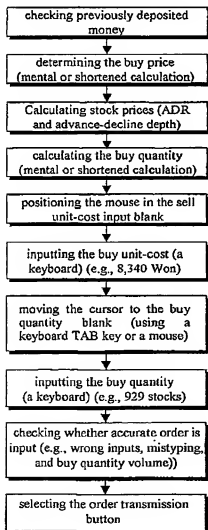
[illegible]

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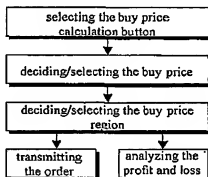
FIG. 19

Comparison of buy order processConventional method

- time required: more than 15secs. (except detailed calculation)
- manual operation/eye operation: more than 10 times/more than 4 times
- input error checking: requiring precise checking

Remedy according to present invention

- time required: 1 to 2 secs.
- manual operation/eye operation required for order inputting: once/once
- input error checking: not necessary



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR 02/00406

## CLASSIFICATION OF SUBJECT MATTER

IPC<sup>7</sup>: G06F 17/60

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC<sup>7</sup>: G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

wpi paj

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6078904 A (Rebane) 20 June 2000 (20.06.00) <i>the whole document.</i>	1-18
A	WO 97/0441 (Citibank) February 1997 (06.02.97) <i>the whole document.</i>	1-18
A	DE 10028238 A1 (IBM) 22 February 2001 (22.02.01) <i>the whole document.</i>	1,2,8,9,11,13

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Date of the actual completion of the international search

30 April 2002 (30.04.2002)

Date of mailing of the international search report

25 June 2002 (25.06.2002)

Name and mailing address of the ISA/AT

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Facsimile No. 1/53424/535

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WERNER

Telephone No. 1/53424/357

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCI/KR 02/00406-0

Patent document cited in search report			Publication date		Patent family member(s)		Publication date
DE	A1	10028238	22-02-2001		CN	A	1276672
					JP	A2	01034679
US	A	6078904	20-06-2000		none		13-12-2000
WO	A	970441			none		09-02-2001

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